DOE/EIS-0350-S1
August 2011

Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Summary

Conceptual Drawing CMRR Facility

Availability of the
Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)

To submit questions regarding this CMRR-NF SEIS, or to request a copy, please contact:

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Summary

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COVER SHEET

Responsible Agency: U.S. Department of Energy (DOE)
National Nuclear Security Administration (NNSA)

Title: *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1)

Location: Los Alamos, New Mexico

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This document is available on the DOE NEPA website (http://www.energy.gov/nepa) and the NNSA NEPA website (http://www.nnsa.energy.gov/nepa/cmrrseis) for viewing and downloading.

***Abstract*:** NNSA, a semiautonomous agency within DOE, proposes to complete the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory (LANL) by constructing the nuclear facility portion (CMRR-NF) of the CMRR Project to provide the analytical chemistry and materials characterization capabilities currently or previously performed in the existing Chemistry and Metallurgy Research (CMR) Building. This *CMRR-NF SEIS* examines the potential environmental impacts associated with NNSA's proposed action.

The existing CMR Building, most of which was constructed in the early 1950s, has housed most of the analytical chemistry and materials characterization capabilities at LANL. Other capabilities at the CMR Building include actinide processing and waste characterization that support a variety of NNSA and DOE nuclear materials management programs. In 1992, DOE initiated planning and implementation of CMR Building upgrades to address specific safety, reliability, consolidation, and security and safeguards issues. Later, in 1997 and 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Building. Because of these issues, DOE determined at that time that the extensive upgrades originally planned would be time-consuming and of only marginal effectiveness. As a result, DOE decided to perform only the upgrades necessary to ensure the continued safe and reliable short-term operation of the CMR Building and to seek an alternative path for long-term reliability. Operational, safety, and seismic issues at the CMR Building also prompted NNSA to cease performing certain activities and to reduce the amounts of special nuclear material allowed in the CMR Building.

NNSA completed the *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* in 2003. In 2004, NNSA issued a Record of Decision (ROD) to construct a two-building replacement facility in LANL Technical Area 55 (TA-55), with one building providing administrative space and

support functions and the other building providing secure laboratory space for nuclear research and analytical support activities (a nuclear facility). The first building, the Radiological Laboratory/Utility/Office Building (RLUOB), has been constructed and is being outfitted with equipment and furniture. Enhanced safety requirements and updated seismic information have caused NNSA to re-evaluate the design concept of the second building, the CMRR-NF. The proposed Modified CMRR-NF design concept would result in a more structurally sound building.

The proposed action is to complete the CMRR Project by constructing the CMRR-NF to provide the needed nuclear facility capabilities. The Preferred Alternative is to construct a new CMRR-NF in TA-55, in accordance with the Modified CMRR-NF design concept. Construction options for the Modified CMRR-NF Alternative include a Deep Excavation Option, in which a geologic layer of poorly welded tuff would be removed and replaced with low-slump concrete, and a Shallow Excavation Option, in which the foundation would be constructed in a geologic layer above the poorly welded tuff layer. As envisioned in the 2003 *CMRR EIS*, tunnels would be constructed to connect the CMRR-NF to the TA-55 Plutonium Facility and RLUOB. The No Action Alternative would be to construct the new CMRR-NF as envisioned in the 2004 ROD. Another alternative would be to continue using the existing CMR Building, implementing necessary maintenance and component replacements to ensure its continued safe operation. This *CMRR-NF SEIS* evaluates the potential direct, indirect, and cumulative environmental impacts associated with the alternatives analyzed. This *CMRR-NF SEIS* also presents an analysis of the impacts associated with disposition of all or portions of the existing CMR Building and a new CMRR-NF at the end of their useful lives.

Public Comments: In preparing this *Final CMRR-NF SEIS*, NNSA considered comments received during the scoping period (October 1 through November 16, 2010) and during the public comment period on the *Draft CMRR-NF SEIS* (April 29 through June 28, 2011) and late comments received after the close of the public comment period on the *Draft CMRR-NF SEIS*. Public hearings on the *Draft CMRR-NF SEIS* were held in Albuquerque, Los Alamos, Española, and Santa Fe, New Mexico. Comments on the *Draft CMRR-NF SEIS* were requested during a period of 60 days following publication of the U.S. Environmental Protection Agency's (EPA's) Notice of Availability in the *Federal Register*. NNSA considered every comment received at the public hearings or by U.S. mail, e-mail, or by toll-free phone or fax lines. All comments, including late comments received through July 31, 2011, were considered during preparation of this *Final CMRR-NF SEIS*.

This *Final CMRR-NF SEIS* contains revisions and new information based in part on comments received on the draft. Vertical change bars in the margins indicate the locations of these revisions and new information. Volume 2 contains the comments received on the *Draft CMRR-NF SEIS* and NNSA's responses to the comments. NNSA will use the analysis presented in this *Final CMRR-NF SEIS*, as well as other information, in preparing a ROD regarding the construction of the CMRR-NF. NNSA will issue the ROD no sooner than 30 days after EPA publishes a Notice of Availability of this *Final CMRR-NF SEIS* in the *Federal Register*.

OVERVIEW

The National Nuclear Security Administration (NNSA) is a semiautonomous agency within the U.S. Department of Energy (DOE). NNSA is responsible for the management and security of the Nation's nuclear weapons, nuclear nonproliferation programs, and naval reactor programs. NNSA is also responsible for administration of Los Alamos National Laboratory (LANL).

Since the early 1950s, DOE has conducted analytical chemistry and materials characterization work in the Chemistry and Metallurgy Research (CMR) Building at LANL. The CMR Building supports various national security missions, including nuclear nonproliferation programs; the manufacturing, development, and surveillance of pits (the fissile core of a nuclear warhead); life extension programs; dismantlement efforts; waste management; material recycle and recovery; and research. The CMR Building is a Hazard Category 2 nuclear facility with significant nuclear material and nuclear operations and has a potential for significant consequences.

The CMR Building is almost 60 years old and near the end of its useful life. Many of its utility systems and structural components are aged, outmoded, and deteriorated. In the 1990s, geological studies identified a seismic fault trace located beneath two of the wings of the CMR Building, which raised concerns about the structural integrity of the facility. Over the long term, NNSA cannot continue to operate the mission-critical CMR support capabilities in the existing CMR Building at an acceptable level of risk to worker safety and health. NNSA has already taken steps to minimize the risks associated with continued operations at the CMR Building. To ensure that NNSA can fulfill its national security mission for the next 50 years in a safe, secure, and environmentally sound manner, NNSA proposed in 2002 to construct a CMR replacement facility, known as the Chemistry and Metallurgy Research Building Replacement (CMRR).

NNSA has undertaken extensive environmental review of the CMRR Project; after thoroughly analyzing its potential environmental impacts and considering public comments, NNSA issued a final environmental impact statement (EIS) in November 2003 and a Record of Decision (ROD) in February 2004. The ROD announced that the CMRR would consist of two buildings: a single, aboveground, consolidated, special-nuclear-material-capable, Hazard Category 2 laboratory building (the CMRR-NF), as well as a separate but adjacent administrative office and support building, the Radiological Laboratory/Utility/Office Building (RLUOB). Construction of RLUOB is complete, and radiological operations are scheduled to begin in 2013.

Since issuance of the 2004 ROD, new developments have arisen indicating that changes to the CMRR are appropriate. Specifically, a new site-wide analysis of the geophysical structures that underlie the LANL area was prepared. In light of this new geologic information regarding seismic conditions at the site, NNSA has proposed changes to the design of the CMRR-NF. NNSA has also developed more-detailed information on the various support functions and infrastructure needed for construction, such as concrete batch plants and laydown areas. Even with these changes, the scope of operations remains the same as before (the 2004 ROD), as does the quantity of special nuclear material that can be handled and stored in the CMRR-NF.

Though the changes would affect the structural aspects of the building and not its purpose, NNSA decided to prepare a supplemental EIS (SEIS) to address the ways in which the potential environmental effects of the proposed CMRR-NF have changed since the project was analyzed in the 2003 EIS. Development of an SEIS includes a scoping process, public meetings, and a comment period on a draft SEIS to ensure that the public has a full opportunity to participate in this review. Because NNSA decided in the 2004 ROD to build the CMRR—as a necessary step in maintaining critical analytical chemistry and materials characterization capabilities at LANL—this SEIS is not intended to revisit that decision. Instead, this SEIS supplements the previous analysis by examining the potential environmental impacts related to the proposed change in the CMRR design. So, in addition to the No Action Alternative (to proceed with the CMRR-NF as announced in the 2004 ROD), this SEIS considers two action alternatives: (1) construct a new Modified CMRR-NF that would result in a more structurally sound building (construction options include shallow and deep excavation); and (2) continue using the CMR Building, with minor upgrades and repairs to ensure safety, together with RLUOB.

On March 11, 2011, as the draft SEIS was in its final stages of preparation, the Fukushima Daiichi Nuclear Power Plant in Japan was damaged by a tsunami generated as a result of a magnitude 9.0 earthquake. A number of comments received by NNSA on the draft SEIS expressed concerns regarding the nuclear consequences of a seismic event affecting LANL. In response to these concerns, NNSA revised the final SEIS to include additional information about the seismic environment of the LANL sites being considered in the alternatives analyzed, the potential seismically initiated accidents that might occur at the CMR Building or a CMRR-NF facility, and the critical differences between a nuclear power plant and a nuclear materials research laboratory. NNSA remains committed to improving our understanding of the events affecting the Fukushima Daiichi Nuclear Power Plant and learning from Japan's experience.

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ACRONYMS, ABBREVIATIONS, AND CONVERSION CHARTS

AC	analytical chemistry
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CMR	Chemistry and Metallurgy Research Building
CMRR	Chemistry and Metallurgy Research Building Replacement
CMRR EIS	*Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico*
CMRR-NF	Chemistry and Metallurgy Research Building Replacement Nuclear Facility
CMRR-NF SEIS	*Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico*
CRD	Comment Response Document
Complex Transformation SPEIS	*Complex Transformation Supplemental Programmatic Environmental Impact Statement*
DD&D	decontamination, decommissioning and demolition
DOE	U.S. Department of Energy
EIS	environmental impact statement
g	gravitational acceleration
GTCC	greater-than-Class C
LANL	Los Alamos National Laboratory
LANL SWEIS	*Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico*
LCF	latent cancer fatality
LEED	Leadership in Energy and Environmental Design®
MC	materials characterization
MEI	maximally exposed individual
NEPA	National Environmental Policy Act
NMSSUP	Nuclear Materials Safeguards and Security Upgrades Project
NNSA	National Nuclear Security Administration
NRHP	National Register of Historic Places
PC	Performance Category
PIDADS	perimeter intrusion, detection, assessment, and delay system
ROD	Record of Decision
RLUOB	Radiological Laboratory/Utility/Office Building
RLWTF	Radioactive Liquid Waste Treatment Facility
SEIS	supplemental environmental impact statement
SNM	special nuclear material
SWEIS	site-wide environmental impact statement
TA	technical area
TRU	transuranic
U.S.C.	*United States Code*
USFWS	U.S. Fish and Wildlife Service

CONVERSIONS

METRIC TO ENGLISH			ENGLISH TO METRIC		
Multiply	**by**	**To get**	**Multiply**	**by**	**To get**
Area					
Square meters	10.764	Square feet	Square feet	0.092903	Square meters
Square kilometers	247.1	Acres	Acres	0.0040469	Square kilometers
Square kilometers	0.3861	Square miles	Square miles	2.59	Square kilometers
Hectares	2.471	Acres	Acres	0.40469	Hectares
Concentration					
Kilograms/square meter	0.16667	Tons/acre	Tons/acre	0.5999	Kilograms/square meter
Milligrams/liter	1 [a]	Parts per million	Parts per million	1 [a]	Milligrams/liter
Micrograms/liter	1 [a]	Parts per billion	Parts per billion	1 [a]	Micrograms/liter
Micrograms/cubic meter	1 [a]	Parts per trillion	Parts per trillion	1 [a]	Micrograms/cubic meter
Density					
Grams/cubic centimeter	62.428	Pounds/cubic feet	Pounds/cubic feet	0.016018	Grams/cubic centimeter
Grams/cubic meter	0.0000624	Pounds/cubic feet	Pounds/cubic feet	16,025.6	Grams/cubic meter
Length					
Centimeters	0.3937	Inches	Inches	2.54	Centimeters
Meters	3.2808	Feet	Feet	0.3048	Meters
Kilometers	0.62137	Miles	Miles	1.6093	Kilometers
Temperature					
Absolute					
Degrees Celsius + 17.78	1.8	Degrees Fahrenheit	Degrees Fahrenheit - 32	0.55556	Degrees Celsius
Relative					
Degrees Celsius	1.8	Degrees Fahrenheit	Degrees Fahrenheit	0.55556	Degrees Celsius
Velocity/Rate					
Cubic meters/second	2118.9	Cubic feet/minute	Cubic feet/minute	0.00047195	Cubic meters/second
Grams/second	7.9366	Pounds/hour	Pounds/hour	0.126	Grams/second
Meters/second	2.237	Miles/hour	Miles/hour	0.44704	Meters/second
Volume					
Liters	0.26418	Gallons	Gallons	3.78533	Liters
Liters	0.035316	Cubic feet	Cubic feet	28.316	Liters
Liters	0.001308	Cubic yards	Cubic yards	764.54	Liters
Cubic meters	264.17	Gallons	Gallons	0.0037854	Cubic meters
Cubic meters	35.315	Cubic feet	Cubic feet	0.028317	Cubic meters
Cubic meters	1.3079	Cubic yards	Cubic yards	0.76456	Cubic meters
Cubic meters	0.0008107	Acre-feet	Acre-feet	1233.49	Cubic meters
Weight/Mass					
Grams	0.035274	Ounces	Ounces	28.35	Grams
Kilograms	2.2046	Pounds	Pounds	0.45359	Kilograms
Kilograms	0.0011023	Tons (short)	Tons (short)	907.18	Kilograms
Metric tons	1.1023	Tons (short)	Tons (short)	0.90718	Metric tons
ENGLISH TO ENGLISH					
Acre-feet	325,850.7	Gallons	Gallons	0.000003046	Acre-feet
Acres	43,560	Square feet	Square feet	0.000022957	Acres
Square miles	640	Acres	Acres	0.0015625	Square miles

[a] **This conversion is only valid for concentrations of contaminants (or other materials) in water.**

METRIC PREFIXES

Prefix	Symbol	Multiplication factor
exa-	E	1,000,000,000,000,000,000 = 10^{18}
peta-	P	1,000,000,000,000,000 = 10^{15}
tera-	T	1,000,000,000,000 = 10^{12}
giga-	G	1,000,000,000 = 10^{9}
mega-	M	1,000,000 = 10^{6}
kilo-	k	1,000 = 10^{3}
deca-	D	10 = 10^{1}
deci-	d	0.1 = 10^{-1}
centi-	c	0.01 = 10^{-2}
milli-	m	0.001 = 10^{-3}
micro-	μ	0.000 001 = 10^{-6}
nano-	n	0.000 000 001 = 10^{-9}
pico-	p	0.000 000 000 001 = 10^{-12}
femto-	f	0.000 000 000 000 001 = 10^{-15}
atto-	a	0.000 000 000 000 000 001 = 10^{-18}

SUMMARY

This document summarizes the U.S. Department of Energy (DOE) National Nuclear Security Administration's[1] (NNSA's) *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1). It describes the background, purpose, and need for the proposed action; results of the public involvement process; alternatives considered; and results of the analysis of environmental consequences. It also provides a comparison of the potential environmental impacts among the alternatives.

S.1 Introduction

The *CMRR-NF SEIS* (DOE/EIS-0350-S1) has been prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 *United States Code* [U.S.C.] 4321 et seq.), as well as Council on Environmental Quality (CEQ) regulations and DOE NEPA implementing procedures codified in Title 40 of the *Code of Federal Regulations* (CFR) Parts 1500–1508 and 10 CFR Part 1021, respectively. CEQ and DOE NEPA regulations and implementing procedures require preparation of a supplemental environmental impact statement (SEIS) if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. An SEIS may also be prepared to further the purposes of NEPA. The following paragraphs summarize the NEPA analyses applicable to the Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) that the NNSA has completed over the last 7 years, as well as the changes to the CMRR-NF proposal that are the subject of the *CMRR-NF SEIS*.

In November 2003, NNSA issued the *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* (DOE/EIS-0350) (DOE 2003), which was followed by the issuance of a Record of Decision (ROD) in February 2004 (69 *Federal Register* [FR] 6967). In that 2004 ROD, NNSA stated its decision to implement the preferred alternative, Alternative 1, the construction and operation of a new Chemistry and Metallurgy Research Building Replacement (CMRR) Facility within Technical Area 55 (TA-55) at Los Alamos National Laboratory (LANL). The new CMRR Facility would include two buildings: one for administrative and support functions and one for Hazard Category 2 special nuclear material[2] (SNM) laboratory operations. Both buildings would be constructed in aboveground locations (under *CMRR EIS* Construction Option 3). The existing Chemistry and Metallurgy Research (CMR) Building located within TA-3 at LANL would undergo decontamination, decommissioning, and demolition (DD&D) in its entirety (under *CMRR EIS* Disposition Option 3). The preferred alternative included the construction of the new CMRR Facility and the movement of operations from the existing CMR Building into the new CMRR Facility, with operations to continue in the new facility over the next 50 years.

As described in the *CMRR EIS*, the laboratory areas in the administrative and support building would be allowed to contain only very small amounts of nuclear materials such that it would be designated a radiological facility.[3] All nuclear analytical chemistry (AC) and materials characterization (MC) operations would be housed in one Hazard Category 2 nuclear laboratory building. The Hazard Category 2 building would be constructed with one floor below ground, containing the Hazard Category 2

[1] For more information on NNSA, a semiautonomous agency within DOE, see the 1999 National Nuclear Security Administration Act (Title 32 of the Defense Authorization Act for Fiscal Year 2000 [Public Law 106-65]).
[2] Special nuclear material includes plutonium, uranium enriched in the isotope 233 or the isotope 235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material.
[3] Facilities that handle less than Hazard Category 3 threshold quantities, but require identification of "radiological areas" are designated radiological facilities.

operations, and one floor above ground, containing Hazard Category 3 operations. An underground tunnel would link the buildings. In addition, another underground tunnel would be constructed to connect the existing TA-55 Plutonium Facility with the Hazard Category 2 building; this tunnel would also contain a vault spur for the CMRR Facility long-term SNM storage requirements. NNSA would operate both the CMR Building and the CMRR Facility for an overlapping 2 to 4-year period because most AC and MC operations require transitioning from the old CMR Building to the new CMRR Facility. The CMR Building would also continue operations during construction of any new CMRR-NF.

Since 2004, project personnel have engaged in an iterative planning process for all CMRR Project activities and materials needed to implement construction of the two-building CMRR Facility at TA-55. The administrative and support building, now known as the Radiological Laboratory/Utility/Office Building (RLUOB), was fully planned and constructed over the past 6 years, from 2004 through 2010. Occupancy of RLUOB is currently estimated to begin in 2011, with radiological laboratory operations commencing in about 2013.

Project planning and design for the CMRR-NF was initiated in 2004, but has progressed along a slower timeline than projected in the *CMRR EIS*. In early 2005, NNSA initiated a site-wide environmental impact statement (SWEIS) for the continued operation of LANL, the *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (LANL SWEIS)* (DOE/EIS-0380) (DOE 2008a); a year later, in October 2006, NNSA initiated preparation of the *Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS)* (DOE 2008b) to consider the potential environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more-efficient enterprise that could respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile (DOE/EIS-0236-S4). While these two environmental impact statements (EISs) were being prepared, CMRR-NF planning was deliberately limited to preliminary planning and design work, and NNSA deferred implementing its decision to construct the CMRR-NF at LANL.

> **Nuclear Facilities Hazards Classification (U.S. Department of Energy [DOE] Standard 1027)**
>
> **Hazard Category 1:** Hazard analysis shows the potential for significant offsite consequences.
>
> **Hazard Category 2:** Hazard analysis shows the potential for significant onsite consequences.
>
> **Hazard Category 3:** Hazard analysis shows the potential for only significant localized consequences.
>
> **Special Nuclear Material (SNM) Safeguards and Security (DOE Order 474.1-1A)**
>
> DOE uses a cost-effective, graded approach to providing SNM safeguards and security. Quantities of SNM stored at each DOE site are categorized as Security Category I, II, III, or IV, with the greatest quantities included under Security Category I and lesser quantities included in descending order under Security Categories II through IV. Types and compositions of SNM are further categorized by their "attractiveness" using an alphabetical system. Materials that are most attractive for conversion into nuclear explosive devices are identified by the letter "A." Less-attractive materials are designated progressively by the letters "B" through "E."

Both the *LANL SWEIS* and the *Complex Transformation SPEIS* were issued in 2008. Among the various decisions announced in the *Complex Transformation SPEIS* ROD (73 FR 77644) was the programmatic decision to retain manufacturing and research and development capabilities involving plutonium at LANL and, in partial support of those activities, to construct and operate the CMRR-NF at LANL in accordance with the 2004 *CMRR EIS* ROD. Among the various decisions supported by the analysis contained in the 2008 *LANL SWEIS* were decisions regarding the programmatic level of operations at LANL facilities (including the CMRR Facility) for at least the next 5 years and project-specific decisions for individual projects at LANL. These decisions were issued in a September 2008 *LANL SWEIS* ROD (73 FR 55833) and a June 2009 *LANL SWEIS* ROD (74 FR 33232). Congressional funding has been appropriated to proceed with CMRR-NF planning and design (DOE 2011b).

Over the past 8 years, the CMRR-NF planning process has identified several design considerations that were not envisioned in 2003, when the *CMRR EIS* was prepared and issued. Several ancillary and support requirements have also been identified in addition to those identified and analyzed in the *CMRR EIS*. Two support actions—installation of an electric power substation in TA-50 and removal and transport of about 150,000 cubic yards (115,000 cubic meters) of geologic material per year during construction from the building site and other LANL construction projects to other LANL locations for storage—were identified early enough to be included in the 2008 *LANL SWEIS* environmental impact analyses and the associated September 2008 *LANL SWEIS* ROD. Both the 2008 and 2009 *LANL SWEIS* RODs identified NNSA's selection of the No Action Alternative for the baseline level of overall operations for the various LANL facilities, which included the implementation of actions selected in the 2004 *CMRR EIS* ROD. These actions included construction and operation of the two-building CMRR Facility at TA-55, transfer of operations from the old CMR Building and its ultimate demolition, and the two support actions mentioned above. The *CMRR-NF SEIS* addresses the CMRR-NF alternatives, as well as updated information on the ancillary and support activities, that have developed since the *CMRR EIS* and *LANL SWEIS* were published.

> **Chemistry and Metallurgy Research Building Replacement Project Terminology**
>
> *Chemistry and Metallurgy Research Building* (*CMR Building*) – refers to the existing building in Technical Area 3 (TA-3) that was built primarily in the 1950s.
>
> *Chemistry and Metallurgy Research Building Replacement Facility* (*CMRR Facility*) – refers to the entire facility conceived to replace the CMR Building; it comprises a nuclear facility and a support facility (see below).
>
> *Radiological Laboratory/Utility/Office Building* (*RLUOB*) – refers to the administration and support facility component of the CMRR Facility. RLUOB has been constructed in TA-55.
>
> *Chemistry and Metallurgy Research Building Replacement Nuclear Facility* (*CMRR-NF*) – refers to nuclear facility component or portion of the CMRR Facility. Construction of the CMRR-NF in TA-55 adjacent to RLUOB is the subject of this supplemental environmental impact statement.

S.2 Background

LANL was originally established in 1943 as "Project Y" of the Manhattan Project in northern New Mexico, within what is now the Incorporated County of Los Alamos (see **Figure S–1**). Project Y had a single national defense mission—to build the world's first nuclear weapon. After World War II ended, Project Y was designated a permanent research and development laboratory, the Los Alamos Scientific Laboratory. It was renamed LANL in the 1980s, when its mission was expanded from defense and related research and development to incorporate a wide variety of new assignments in support of Federal Government and private sector programs. LANL is now a multidisciplinary, multipurpose institution primarily engaged in theoretical and experimental research and development.

Since its creation in 2000, NNSA's congressionally assigned missions have been (1) to enhance U.S. national security through the military application of nuclear energy; (2) to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile to meet national security requirements, including the ability to design, produce, and test; (3) to provide the U.S. Navy with safe, militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of these plants; (4) to promote international nuclear safety and nonproliferation efforts; (5) to reduce the global danger from weapons of mass destruction; and (6) to support U.S. leadership in science and technology (50 U.S.C. 2401(b)). Congress identified LANL as one of three national security laboratories to be administered by NNSA for DOE. As NNSA's mission is a subset of DOE's original mission assignment, the work performed at LANL in support of NNSA has remained unchanged in character from that performed for DOE prior to NNSA's creation. Specific LANL assignments for the foreseeable future include (1) production of weapons components, (2) assessment and certification of the nuclear weapons stockpile, (3) surveillance of weapons components and weapon systems, (4) assurance of the safe and secure storage of strategic materials, and (5) management of excess plutonium inventories. NNSA mission objectives at LANL include providing a wide range of scientific and technological capabilities that support nuclear materials handling, processing, and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities.

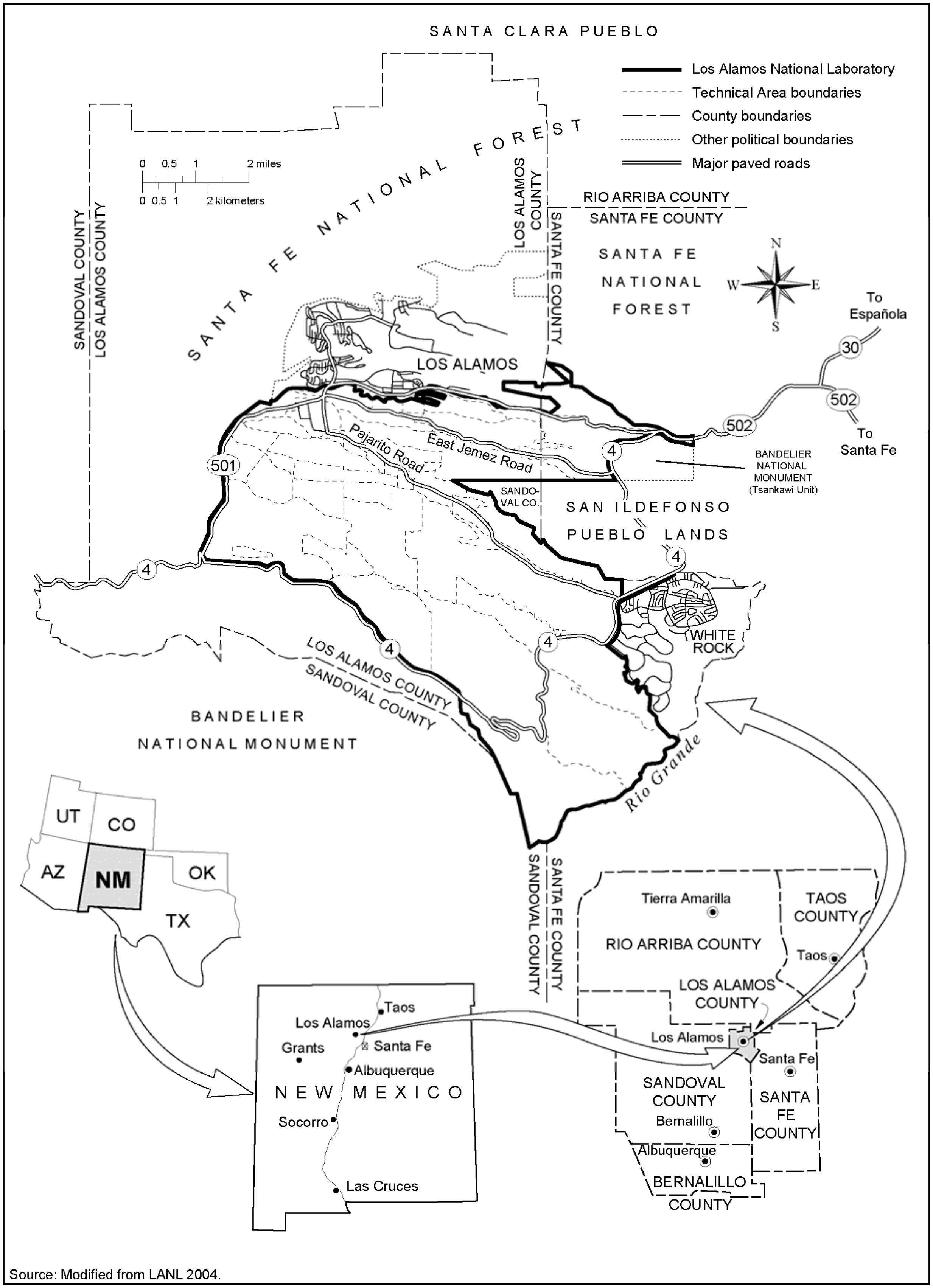

Figure S–1 Location of Los Alamos National Laboratory

In the mid-1990s, DOE, in response to direction from the President and Congress, developed the Stockpile Stewardship and Management Program (now the Stockpile Stewardship Program) to provide a single, highly integrated technical program for maintaining the continued safety and reliability of the nuclear weapons stockpile. Stockpile stewardship comprises activities associated with nuclear weapons research, design, and development; maintaining the knowledge base and capabilities to support nuclear weapons testing; and the assessment and certification of nuclear weapons safety and reliability. Stockpile management includes operations associated with producing, maintaining, refurbishing, surveilling, and dismantling the nuclear weapons stockpile. Mission-essential work conducted at LANL provides science, research and development, and production support to these NNSA missions, with a special focus on national security.

A particularly important facility at LANL is the nearly 60-year-old CMR Building, located in TA-3 (see **Figures S–2** and **S–3**), which has unique capabilities for performing AC, MC, and actinide[4] research and development related to SNM. Actinide science-related mission work at LANL ranges from the plutonium-238 heat source program conducted for the National Aeronautics and Space Administration to arms control technology development. CMR Building operations provide AC and MC in support of manufacturing, development, and surveillance of nuclear weapons pits;[5] nuclear nonproliferation programs; and programs with critical national security missions. Pit production mission support work was first assigned to LANL in 1996 in the ROD for the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (61 FR 68014). DOE later determined how and where it would conduct that mission support work through the 1999 *LANL SWEIS* (DOE 1999) and its associated ROD (64 FR 50797). Since 2000, pit production at LANL has been established within the Plutonium Facility Complex at TA-55 (see Figure S–3), and several certified pits[6] have been produced over the past 5 years in that facility. Pit production does not take place at the CMR Building and would not take place in any CMRR facility.

Construction of the CMR Building was initiated in 1949 and completed in 1952. The CMR Building is a three-story building composed of a central corridor and eight wings, with over 550,000 square feet (51,000 square meters) of working area, including laboratory spaces and administrative and utility areas. The CMR Building is currently designated as a Hazard Category 2, Security Category III nuclear facility. Its main function is to house research and development capabilities involving AC, MC, and metallurgic studies on actinides and other metals. AC and MC services support virtually all nuclear programs at LANL. These activities have been conducted almost continuously in the CMR Building since it became operational in 1952; however, with the closure of Wing 2, the broad spectrum of MC work once performed at the CMR Building has been relocated to other wings of the CMR Building or has been suspended.

The CMR Building was initially designed and constructed to comply with the building codes in effect during the late 1940s and early 1950s. In the intervening years, a series of upgrades has been performed to address changing building and safety requirements. In 1992, DOE initiated planning and implementation of additional CMR Building upgrades to address specific safety, reliability, consolidation, and safeguards and security issues with the intent to extend the useful life of the CMR Building for an additional 20 to 30 years. Many of the utility systems and structural components were recognized then as being aged, outmoded, and generally deteriorating. Beginning in about 1997 and continuing to the present, a series of operational, safety, and seismic issues have surfaced. A 1998 seismic study identified two small parallel faults beneath the northernmost portion of the CMR Building (LANL 1998). No other faults were detected. The presence of these faults gave rise to operational and safety concerns related to

4 "Actinide" refers to any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium), including uranium and plutonium. All members of this group are radioactive.
5 A pit is the central core of a primary assembly in a nuclear weapon typically composed of plutonium-239 and/or highly enriched uranium and other materials.
6 A certified pit meets the specifications for use in the U.S. nuclear stockpile.

the structural integrity of the building in the event of seismic activity along this portion of the Pajarito fault system. These issues have partially been addressed by administratively restricting the amount of material stored within the building and in use at any given time, completely removing operations from three wings of the building, and generally limiting operations in the other three laboratory wings that remain functional. Upgrades to the building that were necessary have since been undertaken to allow the building to continue functioning while ensuring safe and reliable operations. The planned closeout of nuclear laboratory operations within the CMR Building was previously estimated to occur in or around the year 2010; however, with the limited upgrades on selected facility systems and operational restrictions implemented, NNSA plans to continue to operate the nuclear laboratories in the building until the building can no longer operate safely, a replacement facility is available, or NNSA makes other operational decisions.

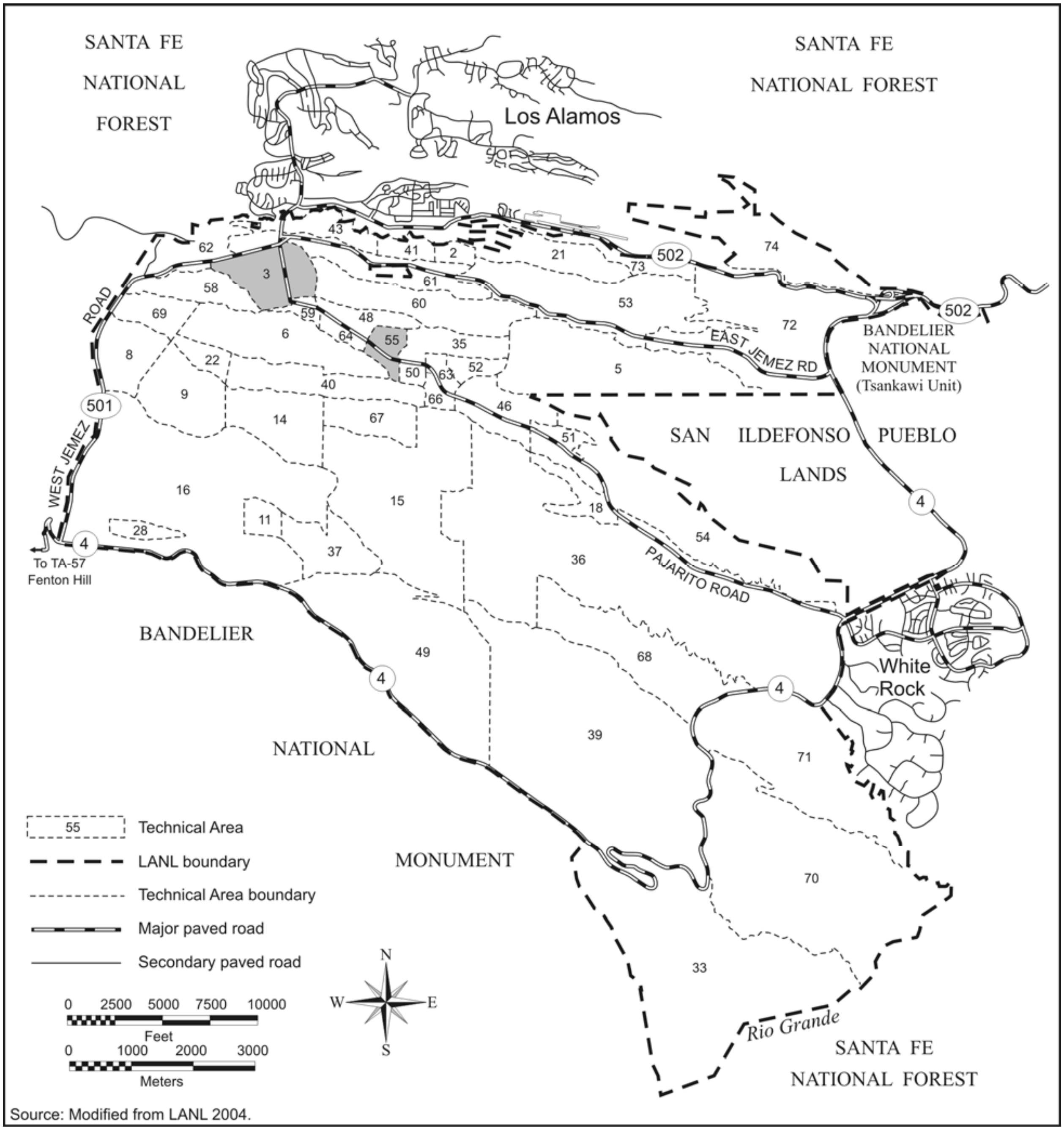

Figure S–2 Identification and Location of Los Alamos National Laboratory Technical Areas

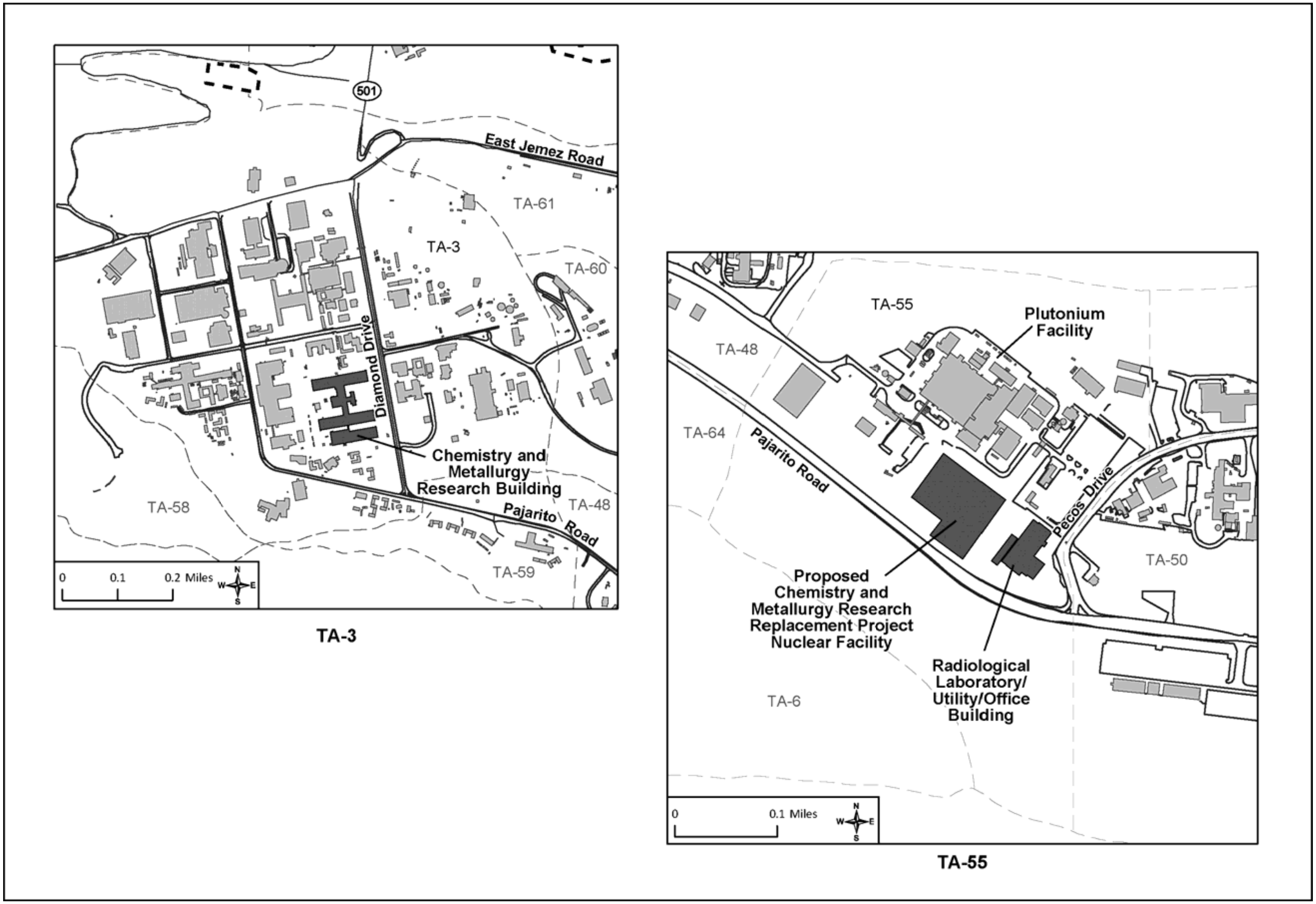

Figure S–3 Location of Facilities in Technical Areas 3 and 55

S.3 Purpose and Need for Agency Action

The purpose and need for NNSA action has not changed since issuance of the 2003 *CMRR EIS*. NNSA needs to provide the physical means for accommodating the continuation of mission-critical AC and MC capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner. Concurrently, NNSA proposes to take advantage of the opportunity to consolidate like activities for the purpose of operational efficiency and cost economies.

AC and MC activities historically conducted at the CMR Building are fundamental capabilities required for support of all DOE and NNSA mission work that involves SNM at LANL. These AC and MC capabilities have been available at LANL for the entire history of the site since the mid-1940s, and these capabilities remain critical to future work at the site. The CMR Building's nuclear operations and capabilities are currently restricted to maintain compliance with safety requirements. Due to facility limitations, the CMR Building is not being operated to the full extent needed to meet DOE and NNSA operational requirements for the foreseeable future. In addition, consolidation of AC and MC activities at TA-55 would enhance operational efficiency in terms of security, support, and risk reduction related to handling and transportation of nuclear materials.

S.4 Scope and Alternatives

NNSA issued the *CMRR EIS* ROD in 2004, announcing its decision to implement the preferred alternative, construction and operation of the two-building CMRR Facility at TA-55 of LANL. RLUOB has been constructed at the southeastern corner of TA-55, and NNSA has proceeded with the planning and design of the CMRR-NF. Based on facility modifications and additional support functions identified through the design process, NNSA is analyzing the following three alternatives in the *CMRR-NF SEIS*. These alternatives are addressed in more detail in Section S.9 of this Summary.

- ***No Action Alternative (2004 CMRR-NF):*** Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD, with two additional project activities (management of excavated soils and tuff and a new electrical substation) analyzed in the 2008 *LANL SWEIS*. Based on new information learned since 2004, the 2004 CMRR-NF would not meet the standards for a Performance Category 3 (PC-3)[7] structure as required to safely conduct the full suite of NNSA AC and MC mission work. Therefore, the 2004 CMRR-NF would not be constructed.

- ***Modified CMRR-NF Alternative:*** Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, with certain design and construction modifications and additional support activities that address seismic safety, infrastructure enhancements, nuclear-safety-basis requirements, and sustainable design principles (sustainable development – see glossary). This alternative has two construction options: the Deep Excavation Option and the Shallow Excavation Option. All necessary AC and MC operations could be performed as required to safely conduct the full suite of NNSA mission work. The Modified CMRR-NF embodies the maturation of the 2004 CMRR-NF design to meet all safety standards and operational requirements.

[7] Each structure, system, and component in a DOE facility is assigned to one of five performance categories depending upon its safety importance. Performance Category 3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002).

- ***Continued Use of CMR Building Alternative:*** Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the CMR Building at TA-3, with normal maintenance and component replacements at the level needed to sustain programmatic operations for as long as feasible. Certain AC and MC operations would be restricted. Administrative and radiological laboratory operations would take place in RLUOB at TA-55.

S.5 Decisions to be Supported by the *CMRR-NF SEIS*

NNSA must decide whether to implement one of the alternatives wholly or one or more of the alternatives in part. NNSA may choose to implement either of the action alternatives in its entirety as described and analyzed in the *CMRR-NF SEIS*, or it may elect to implement only a portion of these alternatives.

The environmental impact analyses of the alternatives considered in the *CMRR-NF SEIS* provide the NNSA decisionmakers with important environmental information to assist in the overall CMRR-NF decisionmaking process. The 2008 *Complex Transformation SPEIS* provided the environmental impacts basis for the NNSA Administrator's decision to programmatically retain the plutonium-related manufacturing and research and development capabilities at LANL and, in support of these activities, to maintain AC and MC functions at LANL during CMRR-NF construction and operations in accordance with the earlier *CMRR EIS* ROD. These decisions were issued in the 2008 *Complex Transformation SPEIS* ROD. Remaining project-specific decisions to be made by the NNSA Administrator regarding the CMRR-NF include (1) whether to construct a new Modified CMRR-NF to meet recently identified building construction requirements and implement all or some of the additional construction support activities identified under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative, or (2) whether to forgo construction of the CMRR-NF in favor of continuing to operate the CMR Building as a Hazard Category 2 Nuclear Facility with a restricted level of operations for mission support work under the Continued Use of CMR Building Alternative. The remaining alternative, to construct the 2004 CMRR-NF as it was described and analyzed in the 2003 *CMRR EIS* and its associated ROD, the 2008 *LANL SWEIS*, the *Complex Transformation SPEIS* and its associated ROD, and in the *CMRR-NF SEIS* as the No Action Alternative, does not meet NNSA's purpose and need and thus, would not be implemented.

NNSA is not planning to revisit decisions at this time that it reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD related to maintaining CMR operational capabilities at LANL to support critical NNSA missions. CMR capabilities were a fundamental component of Project Y during the Manhattan Project era, and the decision to establish these capabilities at the Los Alamos site was made originally by the U.S. Army Corps of Engineers, Manhattan District. DOE's predecessor agency, the Atomic Energy Commission, made the decision to continue support for and expand CMR capabilities at LANL after World War II; the CMR Building was constructed to house these needed capabilities. DOE considered the issue of maintaining CMR capabilities (along with other capabilities at LANL) in 1996 as part of its review of the Stockpile Stewardship Program and made decisions at that time that required the retention of CMR capabilities at LANL. DOE concluded in the 1999 *LANL SWEIS* ROD (64 FR 50797) that, due to lack of information on proposal(s) for replacement of the CMR Building to provide for its continued operations and capabilities, it was not the appropriate time to make specific decisions on the project. With the support of the *LANL SWEIS* impact analyses, however, DOE made a decision on the level of operations at LANL that included the capabilities housed by the CMR Building. In 2003, NNSA prepared the *CMRR EIS* and, in 2004, issued its implementation decisions for locating the CMRR Facility at LANL in TA-55, for constructing a two-building CMRR Facility with Hazard Category 2 laboratories above ground, and for the DD&D of the existing CMR Building after all operations have been re-established at the new CMRR Facility. The *LANL SWEIS* supported NNSA decisions on the level of operations at LANL that included both the operational capabilities housed by the CMR Building and the construction of the CMRR Facility at TA-55. However, NNSA deferred decision(s) on the CMRR-NF until 2008, after completion of the programmatic impacts analysis (the *Complex Transformation SPEIS*) for transforming the nuclear weapons complex into a smaller, more-efficient enterprise. NNSA issued its decisions in December 2008 on the nuclear enterprise, which included the decision to construct and operate the CMRR-NF at LANL, as proposed in the *CMRR EIS*. There is no current proposal to change or modify the operation of the CMRR-NF as it was described in any of these prior NEPA documents, nor is there any current proposal to alternatively disposition the existing CMR Building after it has been decommissioned and decontaminated.

NNSA is not planning to revisit decision(s) made recently on actions geographically associated with the LANL Pajarito Mesa (where TA-55 is located) or along the Pajarito Road corridor (which traverses portions of Pajarito Mesa and Pajarito Canyon). These actions include the following:

- Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) activities, which focus on upgrading various intrusion alarm systems and related security measures for existing LANL facilities
- Plutonium Facility Complex Refurbishment Project, also referred to as the "TA-55 Reinvestment Projects," which focuses on refurbishing and repairing the major building systems at the Plutonium Facility to extend its reliable future operations
- Replacement of the existing, aging Radioactive Liquid Waste Treatment Facility (RLWTF) with a new, smaller-capacity facility
- Replacement of the TRU [transuranic] Waste Facility with a new, smaller-capacity facility, which is necessary to facilitate implementation of the TA-54 Material Disposal Area G low-level radioactive waste disposal site closure
- Closure of various material disposal areas at LANL at the direction of the New Mexico Environment Department and in compliance with a Compliance Order on Consent (Consent Order)[8]
- Continuation of waste disposal projects and programs, including the Waste Disposition Project at TA-54
- Occupancy and operation of RLUOB

With the exception of NNSA's 2004 decision to construct and operate RLUOB, the other projects and programs were analyzed in the *LANL SWEIS*, and decisions were made to implement these actions in the 2008 and 2009 *LANL SWEIS* RODs. These actions are not connected to or dependent on the alternatives evaluated in the *CMRR-NF SEIS*.

[8] *In March 2005, the New Mexico Environment Department, DOE, and the LANL management and operating contractor entered into a Compliance Order on Consent (Consent Order) (NMED 2005). The purposes of the Consent Order are (1) to define the nature and extent of releases of contaminants at, or from, LANL; (2) to identify and evaluate, where needed, alternatives for corrective measures to clean up contaminants in the environment and prevent or mitigate the migration of contaminants at, or from, LANL; and (3) to implement such corrective measures.*

S.6 Other National Environmental Policy Act Documents

There are a number of NEPA documents that are related to the *CMRR-NF SEIS.* These documents were important in developing the *CMRR-NF SEIS* proposed action and alternatives and are summarized below.

Environmental Assessment for the Proposed CMR Building Upgrades at the Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EA-1101). In February 1997, DOE issued this environmental assessment that analyzed the effects that could be expected from performing various necessary extensive structural modifications and systems upgrades at the existing CMR Building. Changes to the CMR Building included structural modifications needed to meet then-current seismic criteria and building ventilation, communications, monitoring, and fire protection systems upgrades and improvements. A Finding of No Significant Impact was issued on the CMR Building Upgrades Project on February 11, 1997.

These upgrades were intended to extend the useful life of the CMR Building for an additional 20 to 30 years. However, beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive upgrades originally planned for the CMR Building would be much more time-consuming than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. As a result, DOE reduced the number of CMR Building upgrade projects to only those needed to ensure safe and reliable operations through at least the year 2010. CMR Building operations and capabilities are currently being restricted to ensure compliance with safety and security constraints. The CMR Building is not fully operational to the extent needed to meet DOE and NNSA requirements. In addition, continued support of NNSA's existing and evolving mission roles at LANL was anticipated to require additional capabilities, such as the ability to remediate large containment vessels.

Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EIS-0350). Issued in 2003, this EIS examined the potential environmental impacts associated with the proposed action of consolidating and relocating the mission-critical CMR capabilities from an aging building to a new, modern building (or buildings). NNSA issued its decision to construct a two-building CMRR Facility adjacent to the Plutonium Facility Complex in TA-55 in the 2004 ROD (69 FR 6967). Design and construction of RLUOB has been completed, and that building is currently being outfitted for office occupancy in 2011 and radiological operations in 2013.

Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EIS-0380). In the 2008 *LANL SWEIS*, NNSA analyzed the potential environmental impacts associated with continued operation of LANL. The LANL SWEIS analyzed the environmental impacts of three alternatives for the level of operations at LANL: No Action, Reduced Operations, and Expanded Operations. Under the No Action Alternative, LANL would operate at the levels selected in the 1999 *LANL SWEIS* ROD and implement other LANL activities that had undergone NEPA analyses since 1999. The 2008 *LANL SWEIS* stated that construction of RLUOB had begun, but construction of the CMRR-NF would be delayed until NNSA had completed and issued certain programmatic analyses and decisions. Two actions that would potentially support CMRR-NF construction and operation (installation of an electric power substation in TA-50 and removal and transport of about 150,000 cubic yards [115,000 cubic meters] of geologic material per year during construction from the CMRR-NF building site and other construction sites to other LANL locations for storage) were included in the 2008 *LANL SWEIS* environmental impact analyses. The first ROD for the 2008 *LANL SWEIS* was signed on September 19, 2008 (73 FR 55833), and a second ROD was signed on June 29, 2009 (74 FR 33232). Both RODs selected implementation of the No Action Alternative, which included construction and operation of the CMRR Facility, as described in the No Action Alternative analyzed in the *CMRR-NF SEIS*, and the additional support activities analyzed under that alternative, as well as certain elements from the Expanded Operations Alternative, including seismic upgrades to the TA-55 Plutonium Facility.

Complex Transformation Supplemental Programmatic Environmental Impact Statement (DOE/EIS-0236-S4). The *Complex Transformation SPEIS* was issued on October 24, 2008; it analyzed the environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more-efficient enterprise that could respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile. Programmatic alternatives considered in the *Complex Transformation SPEIS* specifically addressed facilities that use or store significant (that is, Security Category I/II) quantities of SNM. In the associated 2008 ROD (73 FR 77644) for the programmatic alternatives, NNSA announced its decision to transform the plutonium and uranium manufacturing aspects of the complex into smaller and more-efficient operations while maintaining the capabilities NNSA needs to perform its national security missions. The ROD also stated that manufacturing and research and development involving plutonium would remain at LANL. To support these activities, the *Complex Transformation SPEIS* ROD stated that NNSA would construct and operate the CMRR-NF at LANL as a replacement for portions of the CMR Building, a structure that is nearly 60 years old and faces significant safety and seismic challenges to its long-term operation.

S.7 Public Involvement

During the NEPA process, there are two opportunities for public involvement (see **Figure S–4**). These opportunities include the scoping process and the public comment period. Although scoping is optional for an SEIS under DOE's NEPA implementing procedures (10 CFR 1021.314(d)), NNSA invited public participation in the scoping process and held two scoping meetings. A public comment period on the draft SEIS is required by 40 CFR 1503.1 and 10 CFR 1021.314(d). Section S.7.1 summarizes the scoping process and major comments received from the public. Section S.7.2 summarizes the public comment process for the *Draft CMRR-NF SEIS* and the major comments received from the public. Section S.8 summarizes changes NNSA made in the *Final CMRR-NF SEIS* in response to the public comments.

S.7.1 Scoping Process

On October 1, 2010, NNSA published a Notice of Intent to prepare the *CMRR-NF SEIS* in the *Federal Register* (75 FR 60745) and on the DOE NEPA website. In this Notice of Intent, NNSA invited public comment on the *CMRR-NF SEIS* proposal. The Notice of Intent listed the issues initially identified by NNSA for evaluation in the *CMRR-NF SEIS*. Public citizens, civic leaders, and other interested parties were invited to comment on these issues and to suggest additional issues that should be considered in the *CMRR-NF SEIS*. The Notice of Intent informed the public that comments on the proposed action could be submitted via U.S. mail, e-mail, a toll-free phone line, a fax line, and in person at public meetings to be held in the vicinity of LANL. The public scoping period was originally scheduled to end on

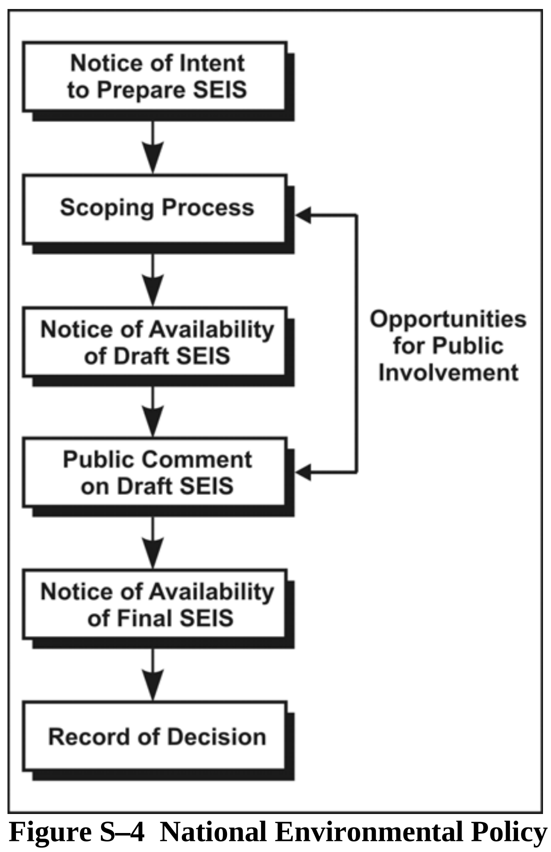

Figure S–4 National Environmental Policy Act Process for the *CMRR-NF SEIS*

November 1, 2010. In response to public comments, NNSA extended the public scoping period through November 16, 2010 (75 FR 67711).

Public scoping meetings were held on October 19, 2010, in White Rock, New Mexico, and on October 20, 2010, in Pojoaque, New Mexico. NNSA representatives were available to respond to questions and comments on the NEPA process and the proposed scope of the *CMRR-NF SEIS*. Members of the public were encouraged to submit written comments, enter comments into a computer database, or record oral comments during the meetings, in addition to submitting comments via letters, the DOE website, or the fax line until the end of the scoping period. All scoping comments were considered by NNSA in preparing the *CMRR-NF SEIS*.

For purposes of this NEPA document, a comment is defined as a single statement or several statements concerning a specific issue. An individual commentor's statement may contain several such comments. Most of the oral and written public statements submitted during the *CMRR-NF SEIS* scoping period contained multiple comments on various specific issues. These issues are summarized in the following paragraphs.

Summary of Major Scoping Comments

Approximately 85 comment statements or documents were received during the scoping process from citizens, interested groups, local officials, and representatives of Native American Pueblos in the vicinity of LANL. Where possible, comments on similar or related topics were grouped into common categories for the purpose of summarizing them. After the issues were identified, they were evaluated to determine whether they were relevant to the *CMRR-NF SEIS*. Issues found to be relevant to the SEIS are addressed in the appropriate chapters or appendices of the *CMRR-NF SEIS*.

Many comments were received regarding the type of document that NNSA should prepare, calling for a new EIS rather than an SEIS. Others called for a programmatic EIS, reopening the question of whether the CMRR-NF should be constructed at all and whether it should be constructed at another NNSA site. Similarly, a commentor called for a review of available space throughout the DOE complex (nationwide) for alternative locations for CMR operations. As indicated in Section S.1, NNSA has determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations (40 CFR 1502.9c and 10 CFR 1021.341(a)-(b), respectively). NNSA is not planning to revisit the decisions regarding the need for the capabilities that would be housed in the proposed CMRR-NF or the decision to locate these capabilities at LANL, as decided in the 2008 *Complex Transformation SPEIS* ROD. There were comments about the alternatives and requests that the No Action Alternative analyze not constructing the CMRR-NF, constructing only a vault structure, or continuing use of the existing CMR Building for AC and MC operations. NNSA has determined that the No Action Alternative considered in the *CMRR-NF SEIS* is the Preferred Alternative that was selected by NNSA for implementation in the 2004 ROD based on the 2003 *CMRR EIS*, and the Continued Use of CMR Building Alternative in the *CMRR-NF SEIS* analyzes the continued use of the CMR Building. Others suggested that NNSA consider locating AC and MC operations in available space in other LANL facilities, such as the TA-55 Plutonium Facility or RLUOB, or building a separate vault that could be used in conjunction with existing LANL facilities so that the CMRR-NF would not be required. In response, RLUOB was not constructed to address the security and safety requirements of Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA would not operate RLUOB as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear material that could be handled in the building. As a result, AC and MC operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Likewise, constructing only the vault structure would not meet NNSA's purpose and need for action to provide sufficient space to safely conduct mission-required AC and MC operations at LANL.

A commentor questioned the need for deep excavation below the poorly welded tuff layer. Since the issuance of the Notice of Intent in October 2010, NNSA has added an additional construction option to the Modified CMRR-NF Alternative. The *CMRR-NF SEIS* analyzes two construction options: Deep Excavation, which would involve excavation to a nominal depth of 130 feet (40 meters) below the ground surface and removal of the poorly welded tuff layer, and Shallow Excavation, which would involve less excavation (to a nominal depth of 58 feet [18 meters]) and constructing the Modified CMRR-NF above the elevation of the poorly welded tuff layer.

Other concerns identified by commentors were related to analyzing the impacts of waste generation, transportation of waste, traffic, and water usage. Additional areas of concern were jobs and DD&D of the CMR Building. NNSA addressed all of these topics in the *Draft CMRR-NF SEIS* and in the *Final CMRR-NF SEIS.*

S.7.2 Public Comments on the *Draft CMRR-NF SEIS*

NNSA prepared the *CMRR-NF SEIS* in accordance with NEPA and CEQ and DOE NEPA regulations (40 CFR Parts 1500 – 1508 and 10 CFR Part 1021, respectively). An important part of the NEPA process is solicitation of public comments on a draft EIS and consideration of those comments in preparing a final EIS. NNSA distributed copies of the *Draft CMRR-NF SEIS* to those organizations, government officials, and individuals who were known to have an interest in LANL, as well as those organizations and individuals who requested a copy. Copies also were made available on the Internet and in regional DOE public document reading rooms and public libraries.

On April 29, 2011, NNSA published a notice in the *Federal Register* (76 FR 24018), concurrent with the U.S. Environmental Protection Agency’s Notice of Availability (76 FR 24021), announcing the availability of the *Draft CMRR-NF SEIS*, the duration of the comment period, the location and timing of the public hearings, and the various methods for submitting comments. NNSA announced a 45-day comment period, from April 29 to June 13, 2011, to provide time for interested parties to review the *Draft CMRR-NF SEIS*. In response to requests for additional review time, the comment period was extended by 15 days, through June 28, 2011, giving commentors a total review and comment period of 60 days (76 FR 28222). In addition, because of the Las Conchas wildfire, NNSA also accepted and responded to comments submitted after the June 28, 2011, deadline through July 31, 2011.

Three public hearings were scheduled at regional venues near LANL from May 24 through May 26, 2011 (Los Alamos, Española, and Santa Fe). In response to requests for additional public hearings, NNSA held a fourth public hearing in Albuquerque on May 23 (76 FR 28222), and provided informal meetings as requested. Newspaper advertisements related to the public hearings, including the Albuquerque hearing, began to run in local newspapers on May 8 and continued through May 19, 2011. NNSA representatives were available to respond to questions on the NEPA process and the *Draft CMRR-NF SEIS* at the hearings and informal meetings. A court reporter was present at each hearing to record the proceedings and prepare a transcript of the public comments. These transcripts are available on the *CMRR-NF SEIS* website at http://nnsa.energy.gov/nepa/cmrrseis. To facilitate participation from hearing attendees, NNSA provided a number of other ways to submit comments at each hearing: a court reporter to record individual comments, computers for entering comments into a computer database, a voice recorder to receive oral comments, and comment forms that could be received at the hearing or mailed by the commentor at a later date. For those unable to attend the hearings, NNSA indicated that comments could be submitted by U.S. mail, e-mail, a toll-free phone line, and a toll-free fax line.

The following is a summary of the comments received on the *Draft CMRR-NF SEIS*. All comments submitted to NNSA during the public comment period and late comments were considered in preparing the *Final CMRR-NF SEIS*. Comments determined not to be within the scope of the *CMRR-NF SEIS* are acknowledged as such in the Comment Response Document (CRD) (Volume 2 of this

Final CMRR-NF SEIS). The remaining comments were reviewed and responded to by policy experts, subject matter experts, and NEPA specialists, as appropriate. The comment letters, including campaign letters, as well as the public hearing transcripts, are provided with NNSA responses in the CRD. The CRD is organized as follows:

- Section 1 describes the public comment process for the *Draft CMRR-NF SEIS*; the format used in the public hearings on the draft SEIS; the organization of the CRD and how to use the document; and the changes made by NNSA to the *Final CMRR-NF SEIS* in response to the public comments and recent developments that occurred since publication of the *Draft CMRR-NF SEIS*.
- Section 2 presents summaries of the major issues identified from the public comments received on the *Draft CMRR-NF SEIS* and NNSA's response to each issue.
- Section 3 presents a side-by-side display of all comments received by NNSA on the *Draft CMRR-NF SEIS* and NNSA's response to each comment.
- Section 4 contains the references cited in the CRD.

Summary of Comments on the *Draft CMRR-NF SEIS*

Commentors requested changes in the scope of the SEIS. A large number stated that NNSA should prepare an EIS that would address the need for the nuclear weapons mission or the need for the CMRR-NF. Other comments criticized the No Action Alternative, suggesting that it should analyze not constructing the CMRR-NF as selected in the 2004 *CMRR EIS* ROD. Commentors objected to the range of alternatives because two of the three alternatives would not meet NNSA's stated purpose and need. Others suggested different alternatives that NNSA should consider, including use of RLUOB, the TA-55 Plutonium Facility, or other onsite and offsite locations for AC and MC operations.

A number of commentors suggested that a capacity study or a "plutonium infrastructure" study should be conducted. Commentors made a variety of comments related to the need for and function of the CMRR-NF. Commentors stated directly or implied that the CMR Building, the proposed CMRR-NF, or both, were or would be used to manufacture plutonium pits or "triggers." Some commentors questioned the need for the CMRR-NF, indicating that a production rate of 20 pits per year supported by current facilities and the number of pits in storage should be sufficient. Commentors also questioned the need for pit production because pits are reported to have a greater than 100-year life. Other commentors asked what pit production rate the CMRR-NF was intended to support.

Many commentors expressed concerns and opinions about the geologic features of the LANL area in general and the proposed construction site specifically. In addition to concerns expressed regarding the nearness of a fault and the potential for a seismic event, it was also noted that the construction site lies over a layer of soft volcanic ash that could be compacted by the weight of the building.

Additionally, commentors expressed the fear that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. Specific comments referenced other nuclear accidents, such as those at the Rocky Flats Plant, the Church Rock spill, and the accidents at Three Mile Island and Chernobyl. Many commentors expressed a desire to ensure that similar accidents would not occur at LANL by not building the proposed CMRR-NF or by shutting down other nuclear facilities at LANL. One commentor cited a recent report on volcanic activity in the LANL region. Due to the recent Las Conchas fire of June 2011, commentors were concerned about the impact of wildfires on the CMRR-NF.

Commentors expressed concerns that the Compliance Order on Consent (Consent Order) signed with the State of New Mexico would not be honored if a new nuclear facility were constructed at LANL. Specifically, commentors were doubtful that the cleanup of the Material Disposal Area G in TA-54 would be implemented by December 31, 2015, as required by the Consent Order. Commentors also expressed a desire that funds should be spent on cleanup activities at LANL rather than on a new nuclear facility.

Commentors did not agree with the results of the environmental justice analysis. The U.S. Environmental Protection Agency suggested that the analysis be revised to specifically address minority and low-income populations within 5-, 10-, and 20-mile (8-, 16-, and 32-kilometer) distances of the CMRR-NF site.

As with the individual comments, responses to these major topics are included in Volume 2, CRD, of the *CMRR-NF SEIS*. In preparing the *Final CMRR-NF SEIS*, NNSA incorporated changes in response to the comments and more recent information, as discussed in the following section.

S.8 Changes from the *Draft CMRR-NF SEIS*

In preparing the *Final CMRR-NF SEIS,* NNSA made revisions in response to comments received from other Federal agencies, state and local government entities, Native American tribal governments, and the public. In addition, the *Final CMRR-NF SEIS* was changed to provide additional environmental baseline information, include additional analyses, correct inaccuracies, make editorial corrections, and clarify text. The following summarizes the more important changes made in the *Final CMRR-NF SEIS*.

Chapter 1, "Introduction and Purpose and Need for Agency Action," was updated to discuss the reason why the design of the CMRR-NF needed to be modified and how this change resulted in the need to develop an SEIS. Section 1.7, Public Involvement, was modified to summarize the comments received during the scoping period and to include information related to the public comment period and public hearings on the *Draft CMRR-NF SEIS*. Section 1.8, Changes from the *Draft CMRR-NF SEIS*, was added to summarize the changes that have been made. Section 1.9, Organization of the *CMRR-NF SEIS*, was modified to include a paragraph on the addition of the CRD as Volume 2 of the *Final CMRR-NF SEIS*.

Chapter 2, "Project Description and Alternatives," was updated to include additional project-related information. Section 2.4, Proposed Chemistry and Metallurgy Research Building Replacement Project Capabilities, was updated to include additional information on the AC and MC capabilities that would be present in the proposed facility. Section 2.6.2, Modified CMRR-NF Alternative, was updated to include additional information on the evolution of the Deep and Shallow Construction Options and to add propane to the construction requirements associated with this alternative. Propane would be used to heat the building during the winter months for 3 to 6 years. The addition of propane use resulted in small changes in the air quality and greenhouse gas impacts for this alternative, as shown in Chapter 4, Section 4.3.4, Air Quality and Noise, as well as changes in Section 4.3.3, Infrastructure. Information was added in Section 2.6.2 regarding the weight of the proposed CMRR-NF and the ability of the ground beneath the proposed facility to support this weight. A bus parking lot that would be constructed on the boundary of TA-48/55 was also added to this alternative to provide room for buses from the proposed construction workers parking lot in TA-72 to remain near the proposed construction site. This change resulted in a small increase in land use for this alternative, as discussed in Section 4.3.2, Land Use and Visual Resources. The description of potential power upgrades associated with this alternative was modified to indicate that the potential power upgrades from TA-5 to TA-55 to support the Modified CMRR-NF could be temporary or permanent, depending on future power requirements. This does not change the amount of land that may be affected, but could change the impacts from temporary to permanent, as indicated in Section 4.3.2. Section 2.7, Alternatives Considered and Dismissed, was revised to describe in more detail the alternatives that NNSA considered and determined not to be reasonable for meeting the purpose and need for continuing CMR operations into the future.

Section 2.7.4 was added to describe other alternatives and proposals considered and to explain why they were not analyzed further in the *CMRR-NF SEIS*. Section 2.10, Summary of Environmental Consequences, was modified to show how the environmental impacts associated with the Modified CMRR-NF Alternative and Continued Use of CMR Building Alternative have changed as a result of the changes discussed in Chapter 4. These changes are all relatively small and do not significantly change any of the environmental consequences presented in the *Draft CMRR-NF SEIS*. Section 2.10 has also been modified to include a summary of the intentional destructive acts sections of Chapter 4 (Sections 4.2.10.3, 4.3.10.3, and 4.4.10.3).

Chapter 3, Affected Environment, was updated in a number of sections. Information was updated in the *Final CMRR-NF SEIS* to reflect the most recent environmental data from the 2009 *SWEIS Yearbook* (LANL 2011c). Information was included in Sections 3.2, Land Use and Visual Resources, and 3.7, Ecological Resources, on the Las Conchas wildfire. None of this information affects the impacts analyses presented in Chapter 4. Section 3.3 was updated to include new estimates of the amount of electricity available to LANL and Los Alamos County. The amount of peak power was reduced from 150 megawatts to 140 megawatts, reflecting the unavailability of two steam-driven turbine generators in TA-3 and increased power available from the Abiquiu Turbine Hydropower Project. These changes resulted in a change in the estimated amount of available electricity and are reflected in changes in the infrastructure sections in Chapter 4, Sections 4.3.3 and 4.4.3, for the Modified CMRR-NF Alternative and Continued Use of CMR Building Alternative, respectively, as well as in Section 4.6, Cumulative Impacts. The availability of electricity continues to cover expected requirements under any of the alternatives. However, peak demand could theoretically exceed available power under the Modified CMRR-NF Alternative, as discussed in the draft SEIS, but this is not expected to occur because actual LANL peak demand has consistently been lower than the estimate included in the 2008 *LANL SWEIS* and used in future forecasts. Additional information was included in the *Final CMRR-NF SEIS* to better describe the seismic studies and information developed for the proposed CMRR-NF site and LANL. This information is included in Section 3.5, Geology and Soils, and includes information from the 2009 update (LANL 2009) to the 2007 probabilistic seismic hazard analysis (LANL 2007). An error in the reported vertical peak ground acceleration at LANL (0.3 *g*) [gravitational acceleration] was corrected to 0.6 *g*. This typographical error in the Executive Summary of the source document (LANL 2007) is not reflective of information presented elsewhere in the probabilistic seismic hazard analysis and was not used in the design of the proposed Modified CMRR-NF. The 2009 update changed the peak horizontal and vertical ground accelerations for the proposed CMRR-NF site in TA-55. The updated factors were lower than the factors included in the 2007 analysis (0.47 *g* compared to 0.52 *g* for peak horizontal ground acceleration and 0.51 *g* compared to 0.6 *g* for peak vertical ground acceleration). The updated values were factored into the design of the proposed Modified CMRR-NF, as described in the *Draft CMRR-NF SEIS,* and do not change any of the analyses presented in the *Final CMRR-NF SEIS*. (This updated information was not available for unlimited public distribution when the *Draft CMRR-NF SEIS* was issued.) Information was included in Section 3.5, Geology and Soils, describing the volcanic history in the region. This information is factored into a revised discussion of potential accidents included in Appendix C. Section 3.9, Socioeconomics, was updated to include the latest information from the 2010 census on the region of influence and to show later unemployment data for the region. These changes did not result in any significant changes to the socioeconomics impacts sections in Chapter 4.

The 2010 census data were used to update the population projections to 2030 for total population, minority populations, and low-income population. As a result of slower than previously projected growth through 2010, the 2030 population projection for the 50-mile (80-kilometer) radius area surrounding TA-55 was reduced from about 545,000 to 511,000, and for the area surrounding TA-3, from about 536,000 to 502,000. Chapter 3, Section 3.10, Environmental Justice, was updated to include changes as a result of 2010 census data and to break the information down to smaller areas for evaluation (5-, 10-, and 20-mile [8-, 16-, and 32-kilometer] radii) in addition to the area within 50 miles (80 kilometers) of TA-55 and TA-3, as requested by the U.S. Environmental Protection Agency. The distribution of the population over the 50-mile (80-kilometer) radius was also updated using the latest census data, and more refined data were used (block data versus block group data; see Appendix B) to estimate the population within 10 miles (16 kilometers) of TA-55 and TA-3. As a result, more people are located closer to LANL (within 5 miles [8 kilometers]) than previously projected. The updated population projections and distributions were used to re-estimate the human health impacts associated with the No Action Alternative (2004 CMRR-NF) (Chapter 4, Section 4.2.10.2, for accidents); the Modified CMRR-NF Alternative (Section 4.3.10); and the Continued Use of CMR Building Alternative (Section 4.4.10), as well as the environmental justice analysis presented in Sections 4.3.11 and 4.4.11. The projected population doses from normal operations and the population accident doses changed slightly as a result of these changes, but not to the extent that the assessment from the draft SEIS would change. Similarly, the doses included in the environmental justice analysis changed, but not significantly. Additional information was included in Chapter 3, Section 3.11, Human Health, on historical health effects studies that have been done on the area surrounding LANL. This information is presented for background and does not affect any of the impacts analyses presented in Chapter 4.

In addition to the updates to Chapter 4 discussed above, other changes have been made to Chapter 4 since the *Draft CMRR-NF SEIS* was issued. Information has been added in Section 4.2.10.2 on the accident analysis that was performed for the *CMRR-NF SEIS*, as presented in Appendix C, as well as the changes in the accident analysis since the *Draft CMRR-NF SEIS* was issued. These changes do not significantly change the results, with the exception of significantly higher doses to the maximally exposed individual (MEI) and noninvolved worker under the seismically induced spill and fire accident at the CMRR-NF. In the *Final CMRR-NF SEIS*, this accident assumes that the earthquake initiates a radioactive material spill that is followed shortly thereafter by a fire, instead of both accidents occurring simultaneously, as was assumed in the *Draft CMRR-NF SEIS*. This change in assumptions results in a larger dose to the MEI and noninvolved worker because the radioactive materials associated with the assumed spill are not immediately lofted by the fire, which would lessen doses to persons close to the accident site. Additional discussion also was added to the accident analysis section for the Modified CMRR-NF Alternative (Section 4.3.10.2) regarding the potential for a wildfire affecting the facility and the effects of a seismic event that damages the CMRR-NF and other plutonium facilities in TA-55.

A special pathways consumer analysis was added to the environmental justice sections in Chapter 4, Sections 4.3.11 and 4.4.11, to show the potential impacts of the alternatives on individuals who may subsist on fish and wildlife caught within the vicinity of LANL. This analysis shows that special pathway consumers would not be exposed to significant risks as a result of implementing either of these alternatives. Section 4.6, Cumulative Impacts, was updated to account for newly acquired information about other projects in the vicinity of LANL, but these projects do not change the impacts discussions presented in this section.

Appendix B was updated to include a revised Section B.3, Air Quality, which factors in the requirement for propane use during construction at the Modified CMRR-NF and a revised number of emergency backup generators associated with the proposed CMRR Facility. Section B.5, Geology and Soils, was modified to eliminate Table B–9, which was related to the Modified Mercalli Intensity Scale. The Modified Mercalli Intensity Scale is not considered in the design of buildings. The design of the CMRR-NF is influenced by peak ground acceleration factors, as discussed in Chapter 3, Section 3.5. Section B.10, Environmental Justice, was modified to include a discussion of changes related to the use of 2010 census data in projecting the affected population to the year 2030, as well as an evaluation of a special pathways receptor.

Appendix C, Evaluation of Human Health Impacts from Facility Accidents, was updated to include a discussion of the Fukushima Daiichi Nuclear Power Plant accident (Section C.9) and wildfires and volcanic activity in the LANL vicinity (Section C.4.1) as they relate to the proposed action in the *CMRR-NF SEIS*. Section C.6 was added to discuss the potential for offsite land contamination in the event of a severe earthquake that results in the release of radioactive materials. Appendix C was also updated to include a discussion of the impact of a severe earthquake on the multiple plutonium facilities in TA-55 should the CMRR-NF be built there (Section C.7). In the event of such an earthquake, it is expected that the consequences would be dominated by releases from the TA-55 Plutonium Facility, which is currently being upgraded to address seismic concerns.

The population consequences and risks shown in Appendix C have been re-estimated using the latest population projections and distributions, as discussed above. The estimated consequences for some accidents have changed as a result of these changes, but the risks associated with these accidents are not significantly different from those presented in the *Draft CMRR-NF SEIS*. The accident with the largest changes is the seismically induced spill followed by a fire accident scenario for the CMRR-NF that was changed, as discussed above. This accident scenario was changed from that presented in the *Draft CMRR-NF SEIS* to reflect changes in the understanding of how it would progress and to present a more conservative accident scenario with respect to doses to the MEI and noninvolved worker.

S.9 Description of the Alternatives

S.9.1 Alternatives Evaluated

No Action Alternative: Under the No Action Alternative, NNSA would implement the decisions made in the 2004 *CMRR EIS* ROD, the 2008 and 2009 *LANL SWEIS* RODs, and the *Complex Transformation SPEIS* ROD. NNSA would construct the new CMRR-NF (referred to as the "2004 CMRR-NF") within TA-55 next to the already constructed RLUOB (see **Figure S–5**), with a portion of the building extending above ground, as described under Alternative 1, Construction Option 3, in the 2003 *CMRR EIS*. As stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the AC and MC work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need.

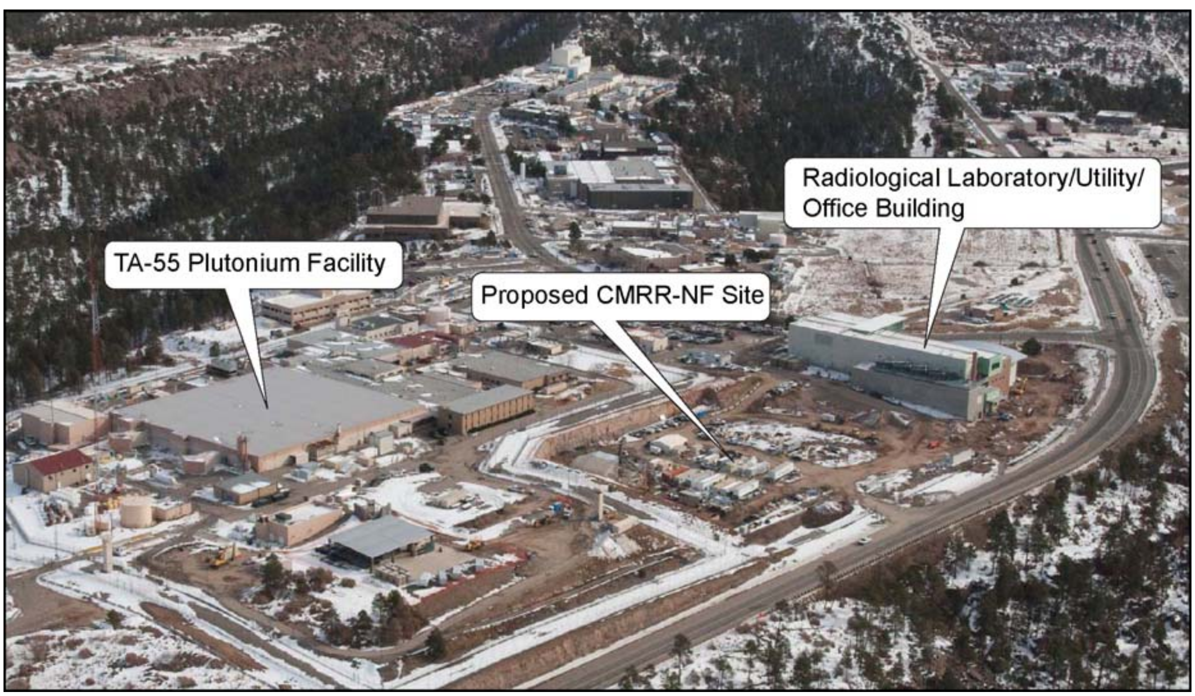

Figure S–5 Proposed Chemistry and Metallurgy Research Building Replacement Nuclear Facility Site in Technical Area 55

As analyzed in the 2003 *CMRR EIS*, AC and MC operations and associated research and development Hazard Category 2 and 3 laboratory capabilities would have been relocated in stages over 2 to 4 years from their current locations at the CMR Building to the 2004 CMRR-NF; those operations and activities would have continued in the 2004 CMRR-NF over about a 50-year period. After laboratory operations were removed from the CMR Building, it would have undergone DD&D activities. Following the closeout of operations at the new 2004 CMRR-NF toward the end of the twenty-first century, DD&D activities at that facility would have occurred. The phased elimination of CMR Building operations was originally estimated to be completed by around 2010; now, completion would not occur until about 2017.

Construction of the 2004 CMRR-NF would have included the construction of connecting tunnels, material storage vaults, utility structures and trenches, security structures, parking area(s), and a variety of other support activities (such as material laydown areas, a concrete batch plant, and equipment storage and parking areas). The construction force would have peaked at 300 workers.

As part of the *LANL SWEIS* No Action Alternative, which was selected in the 2008 ROD, NNSA evaluated (1) the transportation and storage of up to 150,000 cubic yards (115,000 cubic meters) per year of excavated soil or spoils (soil and rock material) from the 2004 CMRR-NF construction and other construction projects that could be undertaken at the site and (2) installation of a new substation on the existing 13.8-kilovolt power distribution loop in TA-50 to provide independent power feed to the existing TA-55 Plutonium Complex and the new CMRR Facility.

The entire 2004 CMRR-NF would have been designed as a Hazard Category 2 facility. The 2004 CMRR-NF would have had an areal footprint measuring about 300 by 210 feet (91 by 64 meters) and would have comprised approximately 200,000 square feet (18,600 square meters) of solid floor space divided between two stories. It would also have included one steel grating "floor" where mechanical and other support systems would have been located and one small roof cupola enclosing the elevator equipment. The 2004 CMRR-NF would have had an aboveground portion (consisting of a single story) that would have housed Hazard Category 3 laboratories and a belowground portion (consisting of a single story) that would have housed Hazard Category 2 laboratories and extended an average of 50 feet (15 meters) below ground. The total amount of laboratory workspace where mission-related AC and MC operations would have been performed was not stated in the 2003 *CMRR EIS*. In 2004, the estimate of 22,500 square feet (2,100 square meters) of laboratory space was provided as a result of integrated nuclear planning activities (DOE 2005). Fire protection systems for the 2004 CMRR-NF would have been developed and integrated with the existing exterior TA-55 site-wide fire protection water storage tanks and services.

As it was envisioned to be constructed in the *CMRR EIS*, the 2004 CMRR-NF could not satisfy current DOE nuclear facility seismic and nuclear safety requirements. Therefore, the 2004 CMRR-NF would not be able to safely function at a level sufficient to fully satisfy DOE and NNSA mission support needs, and thus would not fully meet DOE's stated purpose and need for taking action.

Modified CMRR-NF Alternative: Under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative, NNSA would construct the new CMRR-NF (referred to as the "Modified CMRR-NF") at TA-55 next to the already constructed RLUOB, with certain construction enhancements and additional associated construction support activities. These enhancements and associated construction support activities are necessary to make the facility safe to operate based on new seismic information available since issuance of the *CMRR EIS* ROD in 2004. The structure would be constructed to meet the current International Building Code standards; Leadership in Energy and Environmental Design® (LEED) certification requirements, as applicable; and DOE requirements for nuclear facilities, including projected seismic event response performance and nuclear safety-basis requirements based on new site geologic information, fire protection, and security requirements. The AC and MC operations and associated research and development Hazard Category 2 and 3 laboratory capabilities would be relocated in stages over 3 years from their current locations at the CMR Building to the Modified CMRR-NF, where operations and activities are expected to continue over about the next 50 years. The phased elimination of CMR Building operations is projected to be completed by about 2023. Both the CMR Building and the Modified CMRR-NF would undergo DD&D after operations are discontinued, as identified under the No Action Alternative.

Under this alternative, the Modified CMRR-NF construction phase would also include the construction of connecting tunnels, material storage vaults, utility structures and trenches, security structures, parking area(s), and a variety of other support areas identified under the No Action Alternative. Implementing the Modified CMRR-NF Alternative construction would require the use of additional structural concrete and reinforcing steel for the construction of the building's walls, floors, and roof; additional soil excavation, soil stabilization, and special foundation work would also be necessary. Also, a set of fire suppression water storage tanks would be located within the building, rather than connecting with the existing fire suppression system at TA-55. Additional temporary and permanent actions required to construct the Modified CMRR-NF under this alternative beyond those actions identified under the No Action Alternative would include (1) additional construction personnel, (2) the installation and use of additional parking areas, construction equipment and building materials storage areas, excavation spoils storage areas, craft worker office and support trailers, and personnel security and training facilities; (3) the installation and use of up to two additional concrete batch plants (for a total of three) and a warehouse building; and (4) the installation of overhead and/or underground power lines, site stormwater detention ponds, road realignments, turning lanes, intersections, and traffic flow measures at various locations.

Under the Modified CMRR-NF Alternative, the Modified CMRR-NF would also be an above- and belowground structure; the amount of laboratory floor space where AC and MC operations would occur would be about the same as described under the No Action Alternative (22,500 square feet [2,100 square meters]). The estimated building footprint is about 342 feet long by 304 feet wide (104 meters by 93 meters), with about 344,000 square feet (32,000 square meters) of usable floor space divided among four stories and a partial roof level.

The footprint of the Modified CMRR-NF is larger than that of the 2004 CMRR-NF due to space required for engineered safety systems and equipment, such as an increase in the size and quantity of heating, ventilation, and air conditioning ductwork and the addition of safety-class fire suppression equipment, plus the associated electrical equipment. This equipment added 42 feet (13 meters) to the building in one dimension. The addition of 94 feet (29 meters) in the other dimension was for corridor space for movement of equipment; to avoid interference between systems (mechanical, electrical, piping system); and to allow enough space for maintenance, repair and inspection, and mission support activities (maintenance shop, waste management areas, and radiological protection areas). Part of the increase in building footprint over the 2004 CMRR-NF is due to thicker walls and other structural features required by current seismic and nuclear safety requirements.

The Modified CMRR-NF Alternative includes two construction options, designated as the Deep Excavation Option and the Shallow Excavation Option. Under either option, the Modified CMRR-NF would be designed to meet all current facility operations requirements. Under the Deep Excavation Option, NNSA would excavate the building footprint area down to a depth below a poorly welded tuff layer that lies from about 75 feet (23 meters) to 130 feet (40 meters) below the original ground level. Then the excavated site would be partially backfilled with low-slump concrete to form a 60-foot-thick (18-meter-thick) engineered building site. Three of the building's floors would be located below ground; the fourth floor and a roof equipment penthouse would extend above ground. The removed geologic material would be transported to storage areas at LANL for reuse in other construction projects or for landscaping purposes. The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basemat well above that layer in the overlying stable geologic layer, which would act in a raft-like fashion to allow the building to "float" over the poorly welded tuff layer. Under this option, the

Modified CMRR-NF's base elevation would be about 8 feet (2.4 meters) lower than the excavation described under the No Action Alternative. Engineered backfill would be used to partially bury the building. The building would have three stories below ground and one above ground on the northwest side. Due to site sloping, there would be two stories below ground and two stories and a partial roof level above ground on the southeast side.

The original building elevation (as defined by the bottom of the basemat) considered for the CMRR-NF was located sufficiently shallow such that extensive excavation below the building basemat would not be required and would not extend into the poorly welded tuff layer. This design held through the completion of the conceptual and preliminary design phases of the project. This building location was reviewed by a number of organizations external to the project team, including NNSA and the Defense Nuclear Facilities Safety Board.

When the probabilistic seismic hazard analysis was published in 2007, the building design was adjusted to increase both the thickness in certain floors and the thickness of the basemat. The end result was that the overall building height measured from the bottom of the basemat to the top of the roof was now larger. In response to these changes, the building excavation was deepened to maintain the aboveground height of the building at the same elevation as the previous design. This design change would have resulted in penetration of the poorly welded tuff layer, requiring additional excavation (the Deep Excavation Option).

In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option.

Under either construction option, the Modified CMRR-NF, as envisioned to be constructed under this alternative, would meet all applicable codes and standards for new nuclear facility construction. Therefore, implementing this alternative would allow operations within the Modified CMRR-NF that would fully satisfy DOE and NNSA mission support needs. This alternative would fully meet DOE's stated purpose and need for taking action.

Continued Use of CMR Building Alternative: Under the Continued Use of CMR Building Alternative, NNSA would continue to carry out laboratory operations in the CMR Building at TA-3, with radiological laboratory and administrative support operations moving to the newly constructed RLUOB in TA-55. The continued operation of the CMR Building over an extended period (years to decades) would result in continued reduction of laboratory space as operations are further consolidated or eliminated due to safety concerns. It may also include the administrative reduction of "materials at risk" within portions of the CMR Building as necessary to maintain continued safe working conditions.

This alternative would result in very limited AC and MC capabilities at LANL over the extended period, depending on the overall ability of the CMR Building to be safely operated and maintained. Over time, these capabilities could gradually become more limited and more focused on supporting plutonium operations necessary for the immediate requirements of the stockpile. Moving the TA-3 CMR Building personnel and radiological laboratory functions into RLUOB over the next couple of years would result in considerable operational inefficiencies because personnel would have to travel by vehicle between offices and radiological laboratories at RLUOB and Hazard Category 2 laboratories that remain in the CMR Building. Additionally, the overall laboratory space allotted for certain functions, along with associated materials, might have to be duplicated at the two locations. When AC and MC laboratory operations eventually cease in the CMR Building, the building would undergo DD&D.

This alternative does not completely satisfy NNSA's stated purpose and need to carry out AC and MC operations at a level to satisfy the entire range of DOE and NNSA mission support functions. However, this alternative is analyzed in the *CMRR-NF SEIS* as a prudent measure in light of possible future fiscal constraints.

S.9.2 Alternatives Considered but Not Analyzed in Detail

A number of alternatives were considered, but were not analyzed in detail in the *CMRR-NF SEIS* because NNSA determined they are unreasonable. As required in the CEQ's NEPA regulations, the reasons for their elimination from detailed study are discussed in this section.

Alternative Sites: As discussed in Section S.6, the *Complex Transformation SPEIS* analyzed other possible locations outside of LANL for the activities that would be accomplished in the CMRR-NF. In the ROD for the *Complex Transformation SPEIS* (73 FR 77644), NNSA included its decision to retain plutonium manufacturing and research and development at LANL, and in support of these activities, to proceed with construction and operation of the CMRR-NF at LANL as a replacement for portions of the CMR Building. These decisions support NNSA's goal of consolidating activities and reducing the size of the Nation's nuclear weapons complex, together with modernizing outmoded infrastructure. Therefore, because the alternative sites for key activities within the nuclear weapons complex, as well as the need for CMRR-NF, have been reviewed in depth and programmatic decisions have been issued as recently as December, 2008, no additional sites outside of LANL are being considered further in the *CMRR-NF SEIS*.

In the 2003 *CMRR EIS*, an alternative site in TA-6 at LANL was evaluated as a possible site for the CMRR Facility. The TA-6 site was, in effect, a greenfield site that, if chosen, would have resulted in the central portion of the technical area changing from a largely natural woodland to an industrial site. As indicated in the 2003 *CMRR EIS*, development of the TA-6 site would have resulted in greater environmental impacts than building the proposed CMRR Facility in TA-55. Located near the western boundary of LANL at a slightly higher elevation and about 1 mile (1.6 kilometers) west of TA-55, TA-6 is situated over the same geologic stratigraphy as TA-55. It is also nearer to several known fault traces. In the February 2004 ROD associated with the *CMRR EIS*, NNSA decided that the location for the CMRR Facility would be in TA-55. The site proposed for the CMRR-NF (2004 or Modified) in TA-55 reflects NNSA's goal to bring all LANL nuclear facilities into a nuclear core area. Siting of the CMRR-NF in TA-55 would collocate the AC and MC capabilities near the existing TA-55 Plutonium Facility, where the programs that make most use of these capabilities are located. As discussed in Section S.1, RLUOB (which contains a training facility, incident control center, and radiological laboratories, as well as offices for personnel who would work in the CMRR-NF) has already been constructed in TA-55. No other sites at LANL have been identified as appropriate candidates for the CMRR-NF and none are being considered further in the *CMRR-NF SEIS*.

Extensive Upgrades to the Existing CMR Building in Whole or in Part: The proposal to complete extensive upgrades to the existing CMR Building's structural and safety systems to meet current mission support requirements for another 20 to 30 years of operations was considered and dismissed for analysis by NNSA in the 2003 *CMRR EIS*. Beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term structural viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive facility-wide upgrades originally planned for the CMR Building would be less technically feasible than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA's missions at LANL. The technical challenges of implementing extensive seismic upgrades to the entire CMR Building are exacerbated by the findings of the subsequent seismic hazard analysis and the magnitude of the current design-basis earthquake (LANL 2007). Structurally upgrading the entire structure to a significant extent would require construction of new walls and other building components adjacent to the existing ones that have utilities and structural building features already in place. In addition, the floors of the building would need to be significantly upgraded. This work would have to occur while continuing to provide mission-essential operations in CMR using nuclear materials and hazardous chemicals.

The technical challenges of implementing extensive seismic upgrades to the entire CMR Building, as discussed in the 2003 *CMRR EIS* remain. NNSA has considered undertaking a more limited, yet intensive, set of upgrades to a single wing of the CMR Building, Wing 9, to meet current seismic design requirements so that this wing could be used for a limited set of Hazard Category 2 AC and MC operations. However, after consideration of the various engineering and geological issues; the costs of implementing upgrades to an older structure and developing a new security infrastructure; the costs of maintaining the security infrastructure and safety basis (in addition to that for TA-55); the mission work disruptions associated with construction; operational constraints due to limited laboratory space; and programmatic and operational issues and risks from moving special nuclear material between TA-3 and TA-55, this action was not analyzed further as a reasonable alternative to meet NNSA's purpose and need for action in the *CMRR-NF SEIS*.

NNSA also has considered the possibility of renovating, upgrading, and reusing other CMR Building wings and additional wing combinations to provide the space needed for continuing AC and MC work in the building. However, for the reasons cited in the previous paragraph, the other wings and wing combinations are not reasonable alternatives for providing adequate safe and secure space for future operations in a feasible, cost-effective manner and, therefore, were not considered further in the *CMRR-NF SEIS*.

Distributed Capabilities at Other LANL Existing Nuclear Facilities, Including New Vault Construction: The distribution of AC and MC capabilities among multiple facilities at LANL has been suggested. Because of the quantities of SNM involved, to fully perform the AC and MC and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. Due to seismic concerns and limitations on the quantity of SNM that can be safely managed, the current CMR Building has a limited ability to support continued operations. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic closure of roadways and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, or engineered safety controls required for this type of work.

Construction of only the proposed CMRR-NF vault at TA-55 and use of the TA-55 Plutonium Facility was also considered by NNSA to determine whether that proposed combination, together with the planned future use of RLUOB, would provide adequate space for AC and MC operations over the long term. However, augmenting the existing TA-55 Plutonium Facility with only additional vault storage space would not alleviate the need for more work space for AC and MC laboratory operations. Space does not exist in the TA-55 Plutonium Facility to support this work, and these operations cannot be accomplished within RLUOB because RLUOB is not able to support the level of radiological operations required to support the work needed. RLUOB is a radiological facility capable of handling less-than-Hazard Category 3 radioactive materials, per DOE Standard 1027. It is currently authorized to handle up to 8.4 grams (0.3 ounces) of plutonium-239 equivalent. The CMRR-NF is being designed as a Hazard Category 2 facility capable of using kilogram quantities of plutonium-239 equivalent. This alternative, therefore, was not analyzed further in the *CMRR-NF SEIS*.

Other designated Hazard Category 2 facilities at LANL are not candidates because (1) they have been decommissioned for safety and security reasons and are no longer considered Hazard Category 2 facilities; (2) they are closure sites (specifically, environmental cleanup potential release sites); or (3) they are support facilities. The support facilities would not have the necessary space to perform AC and MC operations and to perform their support functions (for example, waste management facilities). Additionally, as noted above for other facilities, use of these support facilities would introduce new hazards for which the facilities were not designed.

Other Alternatives Considered: Other alternatives have also been considered by NNSA for providing the necessary physical means for accommodating the continuation of mission-critical CMR capabilities in a safe, secure, and environmentally sound manner at LANL. These alternatives included delaying any decision on CMRR-NF at this time and re-examining it at a later date, perhaps as long as several decades from now.

NNSA also considered other suggested construction proposals for building the CMRR-NF, such as constructing a smaller building; reconfiguring the building laboratories and other room partitions; constructing a building with a larger footprint and fewer floors so that the building would require a shallower excavation; constructing a building with more floors above ground so that the building would require a shallower excavation; and reconfiguring the internal walls and laboratory arrangements. However, space is needed to support AC and MC mission-support work and additional space has been determined necessary for building support systems (for example, air handling and filtration); security requirements; safety requirements and equipment; and general utilities. Building an undersized facility, in terms of useful AC and MC laboratory space, would not meet NNSA’s needs and would not be a good investment. Space for construction at TA-55 is limited by the geographic features of the mesa and canyon setting; road requirements; other building, utilities, and land use requirements; and security requirements related to the site that reduce the amount of appropriate available building space. A multi-storied building design is also more efficient in terms of heating and cooling for worker comfort, as well as for other general utility consumption.

Another construction proposal considered was a CMRR Facility comprising three buildings (RLUOB and two nuclear facilities). A three-building CMRR Facility, as considered in the 2003 *CMRR EIS*, would have separated the nuclear facility functions by hazard categorization, resulting in two buildings (a Hazard Category 2 nuclear facility and a Hazard Category 3 nuclear facility). A parallel concept that was also considered was separation of the CMRR Facility functions, based on their security classification requirements, which would also result in two nuclear facilities. Segregation based on security requirements would be very similar to segregation according to hazard category because materials that contain larger quantities of plutonium, and so require a Hazard Category 2 facility, are also materials that would need Security Category I/II levels of protection. The proposed nuclear materials vault would be part of the Security Category I/II building, which would reside inside the TA-55 enhanced security perimeter (that is, a perimeter intrusion, detection, assessment, and delay system [PIDADS]); the Security Category III building, which would house Hazard Category 3 activities, could reside at TA-55 outside of the PIDADS.

To meet mission requirements, the needed laboratory space would not change appreciably if two nuclear facilities were built rather than a single nuclear facility. Dividing the laboratory space between two nuclear facilities rather than using a single nuclear facility does not change the task area space requirements for performing the AC, MC, and research functions. However, dividing laboratory space between facilities results in a slight increase in the overall task area space needed because some task area space would have to be duplicated in each building, specifically, space for sample management, and waste/materials management. Both buildings would require specialized ventilation systems that support gloveboxes, open-front gloveboxes, and fume hoods.

NNSA recently performed a qualitative evaluation of the construction of a two-building nuclear facility compared to the baseline proposal of constructing a single Hazard Category 2, Security Category I/II facility. For the two-building proposal, the evaluation indicated that an overall increase in the size of the buildings and the building footprint would likely result because certain functions would have to be provided in each building and, therefore, would be duplicated. Although the level of controls would differ, each building would require credited safety controls (structures, systems, and components) to ensure that releases would be controlled in the event of an accident. Systems and support space (for example, change rooms, utilities, air-handling and filtration systems, and monitoring and control systems) would be required in each building. Constructing two buildings (and duplicating the systems and support space) would increase the required amounts of construction materials and, if they were constructed in parallel, would require additional land areas for support space (LANL 2011d).

The two-building proposal could provide flexibility with respect to funding requirements if design and construction were undertaken sequentially. Although segregating the CMRR-NF into two separate buildings could provide short-term budgetary flexibility compared to the single building included in the Modified CMRR-NF Alternative, it would extend the schedule with no increase in function or reduction in facility size (LANL 2011d). Programmatically, NNSA would prefer construction of the Security Category I/II building first to provide needed vault storage and MC capabilities and capacity. However, addressing the design, construction, or both sequentially would delay the availability of the Security Category III facility and would extend the time (and associated risk) that NNSA would have to continue to rely on the CMR Building and the period of construction-related disruptions at TA-55. Operating two separate buildings would require a slight increase in personnel as a result of requirements for more support personnel (for example, radiological control technicians) and more operational personnel (for example, materials and waste packaging and transfer staff).

In summary, various construction proposals have been considered during the iterative planning stages of the project to date, and NNSA has arrived at the current proposed building configuration and size after careful deliberation. Additional building configuration and construction proposals for the CMRR-NF were not, therefore, further analyzed in the *CMRR-NF SEIS*. Additional discussion of alternatives and proposals for providing AC and MC capabilities is presented in Chapter 2, Section 2.7 of the *CMRR-NF SEIS* and in Section 2.11 of the CRD.

S.10 The Preferred Alternative

CEQ regulations require an agency to identify its preferred alternative in the final EIS unless another law prohibits the expression of such a preference (40 CFR 1502.14(e)). The preferred alternative is the alternative that the agency believes would fulfill its statutory mission, giving consideration to environmental, economic, technical, and other factors. The Modified CMRR-NF Alternative is NNSA's Preferred Alternative for the replacement of the CMR capabilities. NNSA has not identified a preferred construction option at this time. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option.

S.11 Affected Environment

LANL occupies about 40 square miles (104 square kilometers) of land on the eastern flank of the Jemez Mountains along the area known as the Pajarito Plateau. The terrain in the LANL area consists of mesa tops and canyon bottoms that trend in a west-to-east manner, with the canyons intersecting the Rio Grande to the east of LANL. Elevations at LANL range from about 7,800 feet (2,400 meters) at the highest point on the western side to about 6,200 feet (1,900 meters) at the lowest point along the eastern side, above the Rio Grande. The two primary residential areas within Los Alamos County are the Los Alamos townsite and the White Rock residential development (see Figure S–1). Together, these two residential areas are home to about 18,000 people (DOC 2011). About 13,000 people work at LANL, only about half of which reside within Los Alamos County. LANL operations occur within numerous facilities located over 47 designated technical areas within the LANL boundaries and at other leased properties situated near LANL (see Figure S–2). Most of LANL is undeveloped forested land that provides a buffer for security and safety, as well as expansion opportunities for future use; however, major constraints to development exist and include such factors as topography, slope, soils, vegetation, geology and seismology, endangered species, archaeology and cultural resources, and surface hydrology (LANL 2000). About 46 percent of the floor space of LANL facilities is considered laboratory or production space; the rest is considered administrative, storage, service, and miscellaneous space (LANL 2011a:LANL Site, 006).

TA-3, where the existing CMR facility is located, is situated in the west-central portion of LANL, and it is separated from the Los Alamos townsite by Los Alamos Canyon. It is approximately 0.7 miles (1.1 kilometers) south of the Los Alamos townsite. TA-3 is the main technical area at LANL that houses approximately one-half of its employees and total floor space. It is the administration complex within LANL and contains the director's office, administrative offices, and support facilities. Major facilities within TA-3 include the CMR Building, the Sigma Complex, the Nicholas C. Metropolis Center for Modeling and Simulation, the Main Shops, and the Materials Science Laboratory. Other buildings house central computing facilities, chemistry and materials science laboratories, earth and space science laboratories, physics laboratories, technical shops, cryogenics laboratories, the main cafeteria, badge office, and the study center.

TA-55 is the proposed location for the CMRR-NF. It is situated in the west-central portion of LANL, approximately 1.1 miles (1.8 kilometers) south of the Los Alamos townsite. The newly constructed RLUOB is located in TA-55. TA-55 facilities, including the Plutonium Facility, provide research and applications in chemical and metallurgical processes for recovering, purifying, and converting plutonium and other actinides into many compounds and forms, as well as research into material properties and fabrication of parts for research and stockpile applications. A PIDADS surrounds all nuclear hazard facilities in TA-55.

Table S–1 lists the technical areas within LANL that have been identified as potentially affected by one or more of the three alternatives analyzed in the *CMRR-NF SEIS*.

Table S–1 Technical Areas Potentially Affected by the Proposed Action or Alternatives

Technical Area	*Technical Area Description*	*Land Use Category*	*Potential Project Element*	*Alternative(s)*
3	The main technical area housing approximately half of the LANL employees and about half of its floor space. Site of the present CMR Building. The area is highly developed.	Administration, Service, and Support; Experimental Science; Nuclear Materials Research and Development; Public and Corporate Interface; Reserve; Theoretical and Computational Science	Location of CMR Building	All
5	Contains five physical support facilities, an electrical substation, test wells, as well as archaeological sites and environmental monitoring and buffer areas. The area is largely undeveloped and includes vegetated mesas and canyons.	Administration, Service, and Support; Reserve	Construction laydown and support	Modified CMRR-NF
36	Contains four active sites that support explosives testing. The area is largely undeveloped, with predominantly natural vegetation.	High Explosives Testing	Spoils storage	Modified CMRR-NF
46	Supports basic laboratory research and site of the Sanitary Wastewater Systems Plant. The central and southeastern portions of the technical area are highly developed, while the remainder is forested.	Administration, Service, and Support; Experimental Science; Reserve	Construction laydown and support	Modified CMRR-NF
48	Supports research in nuclear and radiochemistry, geochemistry, production of medical isotopes, and chemical synthesis. The central portion of the technical area is developed. Remaining portions of the mesa top are open or sparsely vegetated, and Mortandad Canyon is largely forested.	Experimental Science; Reserve	Construction laydown and support, bus parking	No Action, Modified CMRR-NF
50	Contains waste support structures. Much of the technical area is developed or disturbed grassland. The southern portion of the technical area within Twomile Canyon is forested.	Reserve	Electrical substation, stormwater detention, parking	No Action, Modified CMRR-NF
51	Used for research and studies on the long-term impact of radioactive materials on the environment. Development within the technical area is scattered; the north wall of Pajarito Canyon is the most heavily vegetated area.	Experimental Science; Reserve	Spoils storage	Modified CMRR-NF
52	Supports theoretical and computational research and development. The central portion of the technical area is developed; the remainder is largely vegetated, especially the south wall of Mortandad Canyon	Administration, Service, and Support; Experimental Science; Reserve	Construction laydown and support	Modified CMRR-NF
54	Supports management of radioactive solid and hazardous chemical wastes. Some development and open fields occur in the western portion of the technical area; remaining areas are largely vegetated.	Waste Management; Reserve	Spoils storage	Modified CMRR-NF
55	Supports research of and applications for the chemical and metallurgical processes of recovering, purifying, and converting plutonium and other actinides into many compounds and forms, as well as research into material properties and fabrication of parts for research and stockpile applications. The technical area is largely developed; only the south wall of an extension of Mortandad Canyon has significant vegetative cover.	Nuclear Materials Research and Development; Reserve	Proposed CMRR-NF site, construction laydown and support, road realignment, bus parking	No Action, Modified CMRR-NF

Technical Area	***Technical Area Description***	***Land Use Category***	***Potential Project Element***	***Alternative(s)***
63	Contains physical support facilities, a trailer, and transportable office space. The mesa-top portion of this technical area is largely developed; however, the south-facing wall of Twomile Canyon and north-facing wall of Mortandad Canyon are forested.	Administration, Service, and Support/Experimental Science; Reserve	Construction laydown and support	Modified CMRR-NF
64	Contains Central Guard Facility, office and storage space for the Hazardous Materials Response Team, as well as several storage sheds and water tanks. Development and open fields dominate the mesa top within this technical area; however, the south-facing wall of Twomile Canyon is forested.	Administration, Service, and Support; Reserve	Stormwater detention	Modified CMRR-NF
72	Contains the live firing range used by LANL protective force personnel for required training, as well as a truck inspection station. The area is sparsely developed and remains largely in a natural vegetated state.	Administration, Service, and Support; Reserve	Parking and road improvements	Modified CMRR-NF

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory.
Note: To convert acres to hectares, multiply by 0.40469.

S.12 Comparison of Alternatives

This section summarizes the alternatives analyzed in the *CMRR-NF SEIS* in terms of their expected environmental impacts and other possible decision factors. The following subsections summarize the environmental consequences and risks by construction and operations impacts for each alternative. The RLUOB portion of the CMRR Facility has already been constructed in TA-55. The No Action and the Modified CMRR-NF Alternatives would result in the construction of the CMRR-NF in TA-55, adjacent to RLUOB. Environmental impacts are also summarized. These include CMR Building and CMRR-NF disposition impacts.

S.12.1 Comparison of Potential Consequences of Alternatives

This section provides an overview of the potential environmental consequences of each alternative. Note that the impacts shown for the No Action Alternative reflect impacts as reported in the *CMRR EIS* for the purpose of comparison with the action alternatives, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. As stated in Section S.4, the 2004 CMRR-NF could not be constructed to meet the current standards required for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the AC and MC work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need. **Table S–2**, at the end of this section, presents a comparison of the environmental impacts of each of the alternatives discussed in detail in Chapter 4, including facility construction and operations impacts.

Land Use and Visual Resources

Under the No Action Alternative, 26.75 acres (10.8 hectares) of land in TA-48, TA-50, and TA-55 were expected to be used to support the construction of the CMRR Facility, including about 4 acres (1.6 hectares) for RLUOB, 5 acres (2.0 hectares) for a parking lot, and 4.75 acres (1.9 hectares) for the proposed CMRR-NF. About 7 acres (2.8 hectares) would have been used to support construction laydown areas and the concrete batch plant proposed under this alternative. About 6 acres (2.4 hectares) of land would have been disturbed by the potential need to realign roads to allow adequate distance between the road and the CMRR-NF site. The 2004 CMRR-NF would have blended in with the industrial look of TA-55.

Under the Modified CMRR-NF Alternative, larger amounts of land at LANL would be affected by the Modified CMRR-NF construction effort. Additional land would be needed to provide space for additional laydown and spoils areas due to the larger amounts of construction materials needed to support construction of the larger building and to store greater amounts of excavated materials due to the larger excavation needed to support construction of the Modified CMRR-NF. Also, the Modified CMRR-NF would require up to three concrete batch plants (not operating concurrently). A total of about 128 to 147 acres (52 to 59 hectares) of land would be used under the Deep Excavation Option and a total 108 to 127 acres (44 to 51 hectares) under the Shallow Excavation Option to support the proposed construction effort, including the proposed site of the CMRR-NF. Many project elements would occur in areas presently designated as "Reserve" (this designation is applied to areas of LANL not assigned other specific use categories). Areas of temporary disturbance could be restored to their original land use designation following project completion. The breakdown of land uses to support the Modified CMRR-NF Alternative include the following:

- Permanent changes to the CMRR-NF site – 4.8 acres (1.9 hectares)
- Temporary changes for construction laydown areas/concrete batch plants in TA-48/55 and TA-46/63 – 60 acres (24 hectares)

- Temporary changes for spoils storage areas in TA-36, TA-51 and TA-54 – Deep Excavation Option, 30 acres (12 hectares); Shallow Excavation Option, 10 acres (4 hectares)
- Temporary changes for a parking lot in TA-72 – up to 15 acres (6.1 hectares)
- Temporary changes for a bus parking lot in TA-48/55 – up to 3 acres (1.2 hectares)
- Temporary power upgrades along TA-5 to TA-55 – 9.1 acres (3.7 hectares)
- Permanent changes for the Pajarito Road realignment in TA-55 – 3.4 acres (1.4 hectares)
- Stormwater detention ponds in TA-48 (temporary), TA-50 (permanent), TA-63 (one temporary and one permanent), TA-64 (permanent), TA-72 (temporary) – 2.5 acres (1.0 hectares)
- Permanent changes for the TA-50 electrical substation – 1.4 acres (0.6 hectares)
- Temporary changes for construction laydown and support in TA-5/52 – 19.1 acres (7.7 hectares)

Permanent land disturbance under the Modified CMRR-NF Alternative would affect about 12 acres (4.9 hectares), including the building site, which was previously disturbed as a result of the geologic investigation of the TA-55 site, the Pajarito Road realignment, the TA-50 electrical substation, and stormwater detention ponds in TA-50, TA-63, and TA-64. The Modified CMRR-NF would blend with the industrial look of TA-55.

Under the Continued Use of CMR Building Alternative, there would be no new impacts in terms of land use or visual impacts at LANL. No construction activities would be undertaken under this alternative, and operations would be conducted in the existing CMR Building.

Site Infrastructure

Under the No Action Alternative, about 0.75 million gallons (2.8 million liters) of water and 63 megawatt-hours of electricity were estimated to be used annually to support the construction of the 2004 CMRR-NF and RLUOB. Annual operations for the 2004 CMRR-NF and RLUOB were estimated to require about 10.4 million gallons (38 million liters) of water and 19,300 megawatt-hours of electricity. Natural gas requirements were not estimated in the *CMRR EIS*. These water and electrical requirements were pre-conceptual design estimates and are now known to be greatly underestimated (see updated estimates in the Modified CMRR-NF Alternative).

Under the Modified CMRR-NF Alternative, about 4 million to 5 million gallons (14 million to 17 million liters) of water and 31,000 megawatt-hours of electricity would be used annually for 9 years to support the construction of the Modified CMRR-NF. These water and electrical requirements would fall within the normal annual operating levels of LANL and would not require the addition of any permanent infrastructure at the site. In addition, approximately 19,200 gallons (73,000 liters) of propane would be needed annually to support construction activities for 3 to 6 years. Annual operations for the Modified CMRR-NF and RLUOB are projected to require about 16 million gallons (61 million liters) of water, 161,000 megawatt-hours of electricity, and 58 million cubic feet of natural gas. These requirements are higher than those estimated for the 2004 CMRR Facility due to the increase in the size of the Modified CMRR-NF and the availability of more-accurate estimates. When compared to the available site capacity, operation of the Modified CMRR-NF and RLUOB would require 12 percent of the available water, 31 percent of the available electricity, and 1 percent of the available natural gas. The peak electrical demand estimate of 26 megawatts, when combined with the site-wide peak demand, could exceed the available capacity at the site. Regardless of the decisions to be made regarding the CMRR-NF, adding a third transmission line and/or re-conductoring the existing two transmission lines are being studied by LANL to increase transmission line capacities up to 240 megawatts to provide additional capacity across the site.[9]

Under the Continued Use of CMR Building Alternative, the infrastructure requirements associated with the continued operation of the existing CMR Building would not change from those included in the site's annual usage estimates and are expected to decrease over time as less work can be safely performed in the building.

Operation of RLUOB would require 7 million gallons (26 million liters) of water, 59,000 megawatts of electricity, and 38 million cubic feet (1.1 million cubic meters) of natural gas, annually. These RLUOB requirements apply to all three alternatives considered in this *CMRR-NF SEIS*.

Air Quality and Noise

Under the No Action Alternative, criteria pollutant concentrations were estimated to remain below New Mexico Ambient Air Quality and Clean Air Act Standards during construction of the 2004 CMRR-NF. There were estimated to be slight noise increases associated with construction activities and increased traffic during the construction period. Annual greenhouse gas emissions during the construction period would have been below the draft CEQ guidance threshold for more-detailed evaluation (CEQ 2010), which suggests that proposed alternatives that are reasonably anticipated to emit 25,000 tons or more of direct carbon-dioxide-equivalent air emissions should be further evaluated, and would have made up about 1 percent of site-wide generation based on LANL's 2008 baseline inventory.[10] Under the No Action Alternative, the air quality and noise associated with the operation of the 2004 CMRR-NF and RLUOB would not have exceeded standards. Annual greenhouse gas emissions during the operation of the 2004 CMRR-NF and RLUOB would have been below the CEQ guidance threshold for more-detailed evaluation and would be about 3 percent of site-wide generation based on LANL's 2008 baseline inventory. Greenhouse gas emissions associated with electricity use during the operation of the 2004 CMRR-NF are estimated to be approximately 12,700 tons of carbon-dioxide equivalent per year (11,500 metric tons of carbon-dioxide equivalent per year); however, the electrical requirement estimated in the 2003 *CMRR EIS* was based on preconceptual design information and is now known to be greatly underestimated.

Under the Modified CMRR-NF Alternative, criteria pollutant concentrations would remain below New Mexico Ambient Air Quality and Clean Air Act Standards during construction of the Modified CMRR-NF under either the Deep or Shallow Excavation Option. There would also be slight noise increases associated with construction activities and increased traffic during the construction period. Annual greenhouse gas emissions during the construction period under either construction option would be below the CEQ guidance threshold for more-detailed evaluation and would be about 7 percent of site-wide generation based on LANL's 2008 baseline inventory. Under the Modified CMRR-NF Alternative, the air quality and noise associated with the operation of the Modified CMRR-NF and RLUOB would not exceed standards. Annual greenhouse gas emissions during operation of the Modified CMRR-NF and RLUOB would be below the CEQ guidance threshold for more-detailed evaluation and would increase site-wide generation by about 25 percent based on LANL's 2008 baseline inventory.

Under the Continued Use of CMR Building Alternative, the air quality and noise associated with operation of the existing CMR Building and RLUOB would not change from the minimal air quality and noise impacts associated with building operations. Applicable New Mexico Ambient Air Quality and

[9] *Evaluated by DOE in a 2000 Environmental Assessment,* Environmental Assessment for Electrical Power Systems Upgrades at Los Alamos National Laboratory *(DOE/EA-1247).*

[10] *The projected LANL site-wide greenhouse gas emissions associated with the electrical usage corresponding to the operations selected in the 2008* LANL SWEIS *RODs would be 543,000 tons per year of carbon-dioxide-equivalent; the LANL 2008 baseline inventory is 440,000 tons per year of carbon-dioxide-equivalent.*

Clean Air Act Standards and noise standards would not be exceeded. Annual greenhouse gas emissions during operation of the CMR Building and RLUOB the would be below the CEQ guidance threshold for more-detailed evaluation and would increase site-wide generation by about 10 percent based on LANL's 2008 baseline inventory.

Geology and Soils

Under the No Action Alternative, construction in TA-55 would have occurred in the geologic layer above the poorly welded tuff layer. Operation of the 2004 CMRR-NF and RLUOB would not have impacted geology and soils on the site. (See the Human Health Impacts – Facility Accidents subsection of this Comparison of Potential Consequences of Alternatives for a discussion of the impacts of a design-basis earthquake on the CMRR-NF.)

Under the Modified CMRR-NF Alternative, construction of the Modified CMRR-NF in TA-55 would either occur in the layer below the poorly welded tuff layer, which would be excavated and replaced with low-slump concrete (under the Deep Excavation Option), or in the layer above the poorly welded tuff layer (under the Shallow Excavation Option). In addition to the material already removed from the construction site for geologic characterization, another 545,000 cubic yards (417,000 cubic meters) of material would be excavated from the construction site under the Deep Excavation Option and stored in designated spoils areas for future use at LANL. About 236,000 cubic yards (180,000 cubic meters) of material would be excavated from the construction site under the Shallow Excavation Option and would be stored in designated spoils areas for future use at LANL. Operation of the Modified CMRR-NF and RLUOB would not result in any further impacts in terms of geology and soils at LANL.

Under the Continued Use of CMR Building Alternative, geology and soils at LANL would not be affected by operation of the existing CMR Building and RLUOB. However, there are identified fault traces in association with an identified active and capable fault zone lying below some of the wings of the CMR Building that have called into question the ability of the building to survive a design-basis earthquake. These concerns have resulted in reduced operations at the CMR Building. See the discussion of Human Health Impacts – Facility Accidents subsection of this Comparison of Potential Consequences of Alternatives for more information, as well as Appendix C.

Surface-Water and Groundwater Quality

Under the No Action Alternative, construction of the 2004 CMRR-NF in TA-55 would have resulted in the potential for temporary impacts on surface-water quality from stormwater runoff. Appropriate soil erosion and sediment control measures and spill prevention practices would have been implemented to minimize suspended sediment and material transport and reduce potential water quality impacts. Operation of the 2004 CMRR-NF and RLUOB would not have resulted in any direct discharges of liquid effluent to the environment. Nonradioactive effluent would have been sent to the sanitary wastewater system for treatment. Radiological effluents would have been piped directly to RLWTF for treatment. RLWTF does not discharge liquid to the environment.

Under the Modified CMRR-NF Alternative, construction of the Modified CMRR-NF in TA-55 would result in the potential for temporary impacts on surface-water quality from stormwater runoff. Appropriate soil erosion and sediment control measures and spill prevention practices, in accordance with an approved Storm Water Pollution Prevention Plan, would minimize suspended sediment and material transport and reduce potential water quality impacts. One stormwater detention pond would be expanded and five new ponds would be built at LANL: one in TA-64 to collect runoff from the laydown area in TA-48/55; one in TA-63 to collect runoff from the construction laydown and support areas in TA-46/63; one in TA-50 to collect runoff from the facility site during construction and after operations begin; and one in TA-48 and one in TA-72 to collect runoff from the parking areas. Operation of the Modified

CMRR-NF and RLUOB would have no impact on surface-water or groundwater quality. Radiological effluents would be piped directly to RLWTF for treatment.

Under the Continued Use of CMR Building Alternative, surface-water and groundwater quality would not be impacted by operation of the CMR Building and RLUOB. All nonradioactive liquid effluent from the CMR Building is now sent to the sanitary wastewater system under the LANL Outfall Reduction Project, and there is no longer an outfall permitted by the National Pollutant Discharge Elimination System at the building; all radiological effluents would be piped directly to RLWTF for treatment.

Ecological Resources

Under the No Action Alternative, construction sites would have included some recently disturbed areas that were not vegetated due to site disturbance, as well as others that are vegetated. Where construction would have occurred on previously developed land, there would be little or no impact on terrestrial resources. Some construction activities would have also removed some previously undisturbed ponderosa pine forest and might have led to displacement of associated wildlife. (Since the issuance of the 2004 ROD associated with the *CMRR EIS*, activities at the proposed TA-55 site related to RLUOB construction and geological studies have resulted in the elimination of this forest land.) There would not have been any direct or indirect impacts on wetlands or aquatic resources. Portions of the project areas that would have been impacted by this alternative included both core and buffer zones in an area of environmental interest for the federally threatened Mexican spotted owl. Construction of the 2004 CMRR-NF could have removed a small portion of potential habitat area for the Mexican spotted owl; however no Mexican spotted owls have been observed in the areas of concern under this alternative. Therefore, NNSA determined this project "may affect, is not likely to adversely affect" the Mexican spotted owl and the U.S. Fish and Wildlife Service (USFWS) concurred (USFWS 2003). Operation of the 2004 CMRR-NF and RLUOB would not have directly affected any endangered, threatened, or special status species. Noise levels associated with the facility would have been low, and human disturbance would have been similar to that which already occurs within TA-55.

Under the Modified CMRR-NF Alternative, construction-related areas include larger areas than those that would be impacted under the No Action Alternative (up to 147 acres [59 hectares] compared to 26.75 acres [10.8 hectares]). Where construction would occur on previously developed land, there would be little or no impact on terrestrial resources. Within areas of undeveloped ponderosa pine forest and pinyon-juniper woodland, about 5 acres (2 hectares) would be permanently disturbed and 110 to 119 acres (40 to 48 hectares) would be temporarily disturbed. Most of these areas are within or adjacent to developed land or land that has been previously disturbed. Construction on undeveloped land in TA-72 and spoils storage areas would cause loss of some wildlife habitat, but would be timed to avoid disturbance of migratory birds during the breeding season (June 1 through July 31). Under the Deep Excavation Option, only wetlands located in TA-36 could be potentially indirectly affected, due to possible stormwater runoff and erosion into the Pajarito watershed from spoils storage in the area. This may also indirectly affect, due to erosion concerns, potential southwestern willow flycatcher habitat which lies adjacent to the potentially impacted area in TA-36. No willow flycatchers of the southwestern subspecies have been confirmed on LANL. A sediment and erosion control plan would be implemented to control stormwater runoff during construction, preventing impacts on the wetlands located farther down Pajarito Canyon and potential southwestern willow flycatcher habitat. Under the Shallow Excavation Option, there would be no direct or indirect impacts on any LANL wetlands or potential southwestern willow flycatcher habitat. Portions of TA-55 and other technical areas affected by construction under the Modified CMRR-NF Alternative include potential habitat for the Mexican spotted owl, which fall within both core and buffer zones in an area of environmental interest. Previously undisturbed land in TA-5/52 used for a construction laydown and support area would impact 9.7 acres (3.9 hectares) of potential core habitat and 12.9 acres (5.2 hectares) of potential buffer habitat for the Mexican spotted owl. However, no Mexican spotted owls have been observed during annual surveys within any of the areas of concern potentially affected under this alternative. NNSA initiated consultation with USFWS, as the Federal agency with regulatory responsibility for the Endangered Species Act, in April 2003 regarding the CMRR Facility. As the project has progressed and new areas have been identified for project activities, NNSA performed biological assessments and amended its consultation with the USFWS (USFWS 2003, 2005, 2006, 2007, 2009, 2011). NNSA determined, and USFWS concurred, that construction in these potential areas of concern may affect, but is not likely to adversely affect, the Mexican spotted owl or the southwestern willow flycatcher (LANL 2011a:Ecological Resources, 019, 020, 021). All project activities have been reviewed for compliance with the *Threatened and Endangered Species Habitat Management Plan* (LANL 2011b). In accordance with the plan, annual surveys are performed to determine the location of any special status species and to determine whether any additional consultation with USFWS is necessary. Additionally, in accordance with the *Sensitive Species Best Management Practices Source Document, Version 1* (LANL 2010), best management practices would be implemented for project activities to reduce risks to sensitive state-listed species. Operation of the Modified CMRR-NF and RLUOB is not expected to adversely affect any endangered, threatened, or special status species. Noise levels associated with operating the facility would be low, and human disturbance would be similar to that which already occurs within TA-55.

Under the Continued Use of CMR Building Alternative, ecological resources would not be impacted by operation of the CMR Building and RLUOB because no new areas would be disturbed under this alternative, and no emissions from the building are expected to adversely impact ecological resources.

Cultural and Paleontological Resources

Under the No Action Alternative, project elements would have had the potential to impact cultural resources sites eligible for listing in the National Register of Historic Places (NRHP); however, no impacts would have been expected to occur through avoidance. All cultural sites would have been clearly marked and fenced to avoid direct or indirect disturbance by construction equipment and workers. If cultural resources sites had been discovered during construction, work would have been stopped and appropriate assessment, regulatory compliance, and recovery measures, including consultation with the State Historic Preservation Officer, would have been undertaken.

Under the Modified CMRR-NF Alternative, Deep Excavation Option, nine technical areas with 31 cultural resources sites eligible for listing in the NRHP would be in the vicinity of project activities. In all cases, there would be no effect on these sites through avoidance. Project personnel would work with LANL cultural resources staff to relocate a portion of the access trail to a cultural resources site that would be impacted by construction of the TA-72 parking lot. Under the Shallow Excavation Option, 16 fewer cultural resources sites could be affected than under the Deep Excavation Option because only TA-5/52 and TA-51 would be needed for spoils storage. All cultural sites would be clearly marked and fenced to avoid direct or indirect disturbance by construction equipment and workers. If cultural resources sites are discovered during construction, work would be stopped and appropriate assessment, regulatory compliance, and recovery measures, including consultation with the State Historic Preservation Officer, would be undertaken.

Under the Continued Use of CMR Building Alternative, cultural resources would not be impacted by operations of the CMR Building and RLUOB.

Socioeconomics

Under the No Action Alternative, an increase in construction-related jobs and businesses in the region surrounding LANL would have been expected. Construction employment, over the course of the 34-month construction period, was projected to peak at about 300 workers. Operation of the 2004 CMRR-NF and RLUOB was estimated to employ about 550 existing workers at LANL.

Under the Modified CMRR-NF Alternative, an increase in construction-related jobs and businesses in the region surrounding LANL is also expected. Construction employment would be needed over the course of a 9-year construction period under either the Deep or Shallow Excavation Option. Construction employment under either option is projected to peak at about 790 workers, which is expected to generate about 450 indirect jobs in the region. Operation of the Modified CMRR-NF and RLUOB would involve about 550 workers at LANL, with additional workers using the facility on a part-time basis. The personnel working in the Modified CMRR-NF and RLUOB, when fully operational, would relocate from other buildings at LANL, including the existing CMR Building, so an increase in the overall number of workers at LANL is not expected.

Under the Continued Use of CMR Building Alternative, about 210 employees would continue to work in the CMR Building until safety concerns force additional reductions in facility operations. In addition, about 140 employees would be employed at RLUOB. A total of about 350 personnel would have their offices relocated to RLUOB. The personnel working in the CMR Building and RLUOB, when fully operational, would not result in an increase in the overall number of workers at LANL.

Human Health Impacts – Normal Operations

The projected human health impacts from normal operations under all of the alternatives analyzed in the *CMRR-NF SEIS* were compared to the impacts included in the 2008 *LANL SWEIS* and were found to be consistent with the incremental impacts associated with CMR operations or the proposed CMRR operations included in the SWEIS. The impacts associated with any of the alternatives included in the SEIS are a small fraction of the impacts associated with overall LANL operations, as estimated in the *LANL SWEIS*. For example, the largest estimated annual population dose associated with any of these alternatives, 1.9 person-rem under the No Action Alternative, would be approximately 6 percent of the total estimated annual population dose from normal LANL operations under the No Action Alternative in the *LANL SWEIS*.

Under the No Action Alternative, the annual projected population dose to persons residing within 50 miles (80 kilometers) of the CMRR Facility in TA-55 would have been about 1.9 person-rem[11] which would have increased the annual likelihood of a single latent cancer fatality in the population by 1×10^{-3}, or 1 in 1,000 per year. The *CMRR EIS* used 2000 census data to estimate the population surrounding the facility (about 309,000).[12] The average individual would have received a dose of 0.0063 millirem annually.[13] This would have equated to an average annual individual risk of developing a latent cancer fatality of about 4×10^{-9}, or 1 chance in 250 million. The MEI would have received a projected dose of 0.33 millirem annually. This would have equated to an annual risk to the MEI of developing a latent cancer fatality of about 2×10^{-7}, or 1 chance in 5 million. The total annual projected worker dose for the 2004 CMRR-NF and RLUOB would have been about 61 person-rem for the radiological workers in the facility. The average radiological worker dose would have been 110 millirem annually. This would have equated to an average annual individual worker risk of developing a latent cancer fatality of about 7×10^{-5}, or approximately 1 chance in 14,000.

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[11] *Doses shown for the No Action Alternative from the* CMRR EIS *were based on internal dose conversion factors from Federal Guidance Report 11 (EPA 1988) that were used in the then-current version of GENII, Version 1.485. For the same exposure, doses would be slightly lower using the more-recent Federal Guidance Report 13 (EPA 1993) factors included in the latest version of GENII, Version 2 which was used to conduct the analysis of the Modified CMRR-NF Alternative.*

[12] *The* CMRR EIS *used data from the 2000 census to estimate the population residing within 50 miles (80 kilometers) of TA-55. The No Action Alternative was not updated because the No Action Alternative is not being evaluated in this CMRR-NF SEIS as an alternative that would meet the NNSA's purpose and need. The Modified CMRR-NF Alternative projects the population surrounding TA-55 out to 2030 using recent data from the U.S. Census Bureau, including data from the 2010 census.*

[13] *Average individual dose is calculated by dividing the projected population dose by the population of the affected area. In this case, 1.9 person-rem was divided by 309,000 individuals, equaling an average dose of about 0.0063 millirem per individual. The numbers are not exact due to rounding of the population and the projected population dose.*

Under the Modified CMRR-NF Alternative, the annual projected population dose to persons residing within 50 miles (80 kilometers) of TA-55 would be approximately 1.8 person-rem, which would increase the likelihood of a single latent cancer fatality in the population by 1×10^{-3}, or 1 in 1,000 per year. The *CMRR-NF SEIS* projects the population to 2030 (about 511,000) using 2010 census data to estimate population dose. The average individual would receive a dose of 0.0035 millirem annually.[14] This equates to an average annual individual risk of developing a latent cancer fatality of about 2×10^{-9}, or 1 chance in 500 million. The MEI would receive a projected dose of 0.31 millirem annually. This equates to an annual risk to the MEI of developing a latent cancer fatality of about 2×10^{-7}, or 1 chance in 5 million. The total annual projected worker dose for the Modified CMRR-NF and RLUOB would be about 60 person-rem for the radiological workers in the facilities. The average radiological worker dose is projected to be 109 millirem annually. This equates to an average annual individual worker risk of developing a latent cancer fatality of about 7×10^{-5}, or approximately 1 chance in 14,000.

Under the Continued Use of CMR Building Alternative, the human health impacts of normal operations of the CMR Building would be smaller than those associated with either the No Action or Modified CMRR-NF Alternative because of the limited amount of radiological work currently allowed in the building due to the safety concerns associated with the seismic threat to the building, as discussed earlier in this Summary. The annual projected population dose to persons residing within 50 miles (80 kilometers) of TA-3 (about 502,000) would be approximately 0.016 person-rem, which would increase the likelihood of a single latent cancer fatality in the population by 1×10^{-5}, or 1 in 100,000, per year. The average individual would receive a dose of 0.000032 millirem annually. This equates to an average annual individual risk of developing a latent cancer fatality of about 2×10^{-11}, or essentially zero. The MEI would receive a projected dose of 0.0023 millirem annually. This equates to an annual risk to the MEI of developing a latent cancer fatality of about 1×10^{-9}, or 1 chance in 1 billion. The total annual projected worker dose for the CMR Building and RLUOB would be about 24 person-rem for the radiological workers in these facilities. The average radiological worker dose is projected to be 68 millirem annually. This equates to an average annual individual worker risk of developing a latent cancer fatality from this dose of about 4×10^{-5}, or approximately 1 chance in 25,000.

Human Health Impacts – Facility Accidents

The accidents associated with the 2004 CMRR-NF have been reevaluated in the *CMRR-NF SEIS* to reflect concerns associated with the ability of the 2004 CMRR-NF to survive the latest estimates of ground acceleration in the event of a design-basis earthquake. Based on an updated probabilistic seismic hazard analysis, it was concluded that a design-basis earthquake with a return interval of about 2,500 years would have an estimated peak horizontal ground acceleration of 0.47 *g* and a peak vertical ground acceleration of 0.51 *g* (LANL 2009). The estimated peak horizontal and vertical ground accelerations at the time the *CMRR EIS* was prepared were about 0.31 *g* and 0.27 *g*, respectively.[15]

The accident that would have had the highest potential human health risk to the noninvolved worker and members of the public was determined to be a seismically induced spill. The frequency of such an accident was estimated to range from once every 10,000 years to once every 100 years. A design-basis earthquake would have resulted in an unacceptable risk of developing a fatal cancer in the population surrounding the facility if the 2004 CMRR-NF were constructed and operated as originally envisioned in the *CMRR EIS* because it would not be expected to survive a design-basis earthquake of the magnitude included in the latest probabilistic seismic hazard analysis. The annual risk of developing a single fatal cancer in the population from this accident would have been 0.8, or an 80 percent chance of a latent fatal

[14] The projected population dose of 1.8 person-rem was divided by 511,000 individuals, equaling an average dose of about 0.0035 millirem per individual.
[15] The return period for the obsolete peak horizontal and vertical ground accelerations of 0.31 and 0.27, respectively, was 2,000 years; the return interval for the current design-basis earthquake at TA-55, with peak horizontal and vertical ground accelerations of 0.47 g and 0.51 g, respectively, is 2,500 years.

cancer. As a result, latent cancer fatalities would have been expected to occur in the surrounding population if the 2004 CMRR-NF were built and operated as originally envisioned and a design-basis earthquake occurred at LANL. The annual risk of a latent cancer fatality to the offsite MEI would have been 7×10^{-3} from a design-basis earthquake-induced spill, or about 1 chance in 143 per year of facility operation. The risk of a latent cancer fatality to a noninvolved worker would have been 1×10^{-2}, or about 1 chance in 100 per year of facility operation. The risks associated with seismically induced accidents at the 2004 CMRR-NF, if they were to occur, would have exceeded DOE guidelines (DOE-STD-3009) and would have presented unacceptable risks to the public and the LANL workforce.

Under either the Deep Excavation or Shallow Excavation Option, the Modified CMRR-NF would be constructed to survive the design-basis earthquake included in the latest probabilistic seismic hazard analysis without significant damage. Construction of the Modified CMRR-NF would involve the use of larger amounts of structural concrete (150,000 cubic yards [115,000 cubic meters]) and structural steel (560 tons [508 metric tons]) compared to the amounts estimated for the 2004 CMRR-NF (3,194 cubic yards [2,442 cubic meters] of structural concrete and 267 tons [242 metric tons] of structural steel). For a beyond-design-basis earthquake that results in a spill of nuclear materials in the Modified CMRR-NF, the annual risk of a single fatal cancer developing in the population surrounding the facility would be 2×10^{-5} or about 1 chance in 50,000 of a fatal cancer occurring compared to an 80 percent chance under the No Action Alternative. The risk of a latent cancer fatality to the offsite MEI from this accident would be 9×10^{-8} or about 1 chance in 11 million per year of facility operation compared to 1 chance in 143 under the No Action Alternative. The risk of a latent cancer fatality to a noninvolved worker would be 6×10^{-6} or about 1 chance in 160,000 per year of facility operation compared to 1 chance in 100 under the No Action Alternative.

Under the Modified CMRR-NF Alternative, the accident with the highest potential risk to the offsite MEI would be a loading dock spill and fire caused by mishandling material or an equipment failure. The annual risk of a latent cancer fatality to the offsite MEI from this accident would be 2×10^{-7} or about 1 chance in 5 million. The accident with the highest potential risk to the offsite population would be a beyond-design-basis seismically induced spill of radioactive materials followed by a fire. This accident would present an increased risk of a single latent cancer fatality in the population surrounding the facility of 5×10^{-5} per year, or about 1 chance in 20,000. Statistically, latent cancer fatalities are not expected to occur in the population from these accidents. The maximum risk of a latent cancer fatality to a noninvolved worker would also be from a beyond-design-basis seismically induced spill of radioactive materials followed by a fire. The risk of a latent cancer fatality to the noninvolved worker from this accident would be 7×10^{-6}, or about 1 chance in 143,000 per year.

The accident with the highest potential risk to the offsite population under the Continued Use of CMR Building Alternative would be a design-basis earthquake or one of lower magnitude that could severely damage the CMR Building, resulting in a seismically induced spill of radioactive materials followed by a fire. The frequency of such an accident was estimated to range from once every 10,000 years to once every 100 years. For this accident, there would be an increased risk of a single latent fatal cancer in the population surrounding the facility of 4×10^{-3} per year. In other words, the likelihood of developing one latent fatal cancer in the population surrounding the facility would be about 1 chance in 250 per year. Statistically, the radiological risk for the average individual in the population would be small. This accident would present a risk of a latent cancer fatality for the offsite MEI of 1×10^{-5} or 1 chance in 100,000 per year. The risk of a latent cancer fatality to a noninvolved worker located at a distance of 300 yards (240 meters) from the CMR Building would be 3×10^{-4}, or about 1 chance in 3,333 per year.

Intentional Destructive Acts

NNSA has prepared a classified appendix to the *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA's strategy for mitigation of environmental impacts resulting from extreme events, including intentional destructive acts, has three distinct components: (1) prevention or deterrence of incidents; (2) planning and timely and adequate response to emergency situations; and (3) progressive recovery through long-term response in the form of monitoring, remediation, and support for affected communities and the environment.

Depending on the intentional destructive acts, the impacts could be similar to the impacts of the accidents analyzed in the *CMRR-NF SEIS*. However, there may be intentional destructive act scenarios for which the impacts exceed those of the accidents analyzed. Analysis of these intentional destructive act impacts provides NNSA with information upon which to base, in part, decisions regarding the construction and operation of the CMRR-NF. The classified appendix evaluates the similarity of scenarios involving intentional destructive acts with those evaluated in the 2008 *LANL SWEIS* and the 2008 *Complex Transformation SPEIS* and presents the potential consequences to a noninvolved worker, an MEI, and the population in terms of physical injuries, radiation doses, and latent cancer fatalities. Although the results of the analyses cannot be disclosed, the following general conclusion can be drawn: the potential consequences of intentional destructive acts are highly dependent on the distance to the site boundary and the size and proximity of the surrounding population; the closer and denser the surrounding population, the higher the consequences. In addition, it is generally easier and more cost-effective to protect new facilities because new security and safety features can be incorporated into their design. New facilities can, as a result of design features, better prevent attacks and reduce the impacts of such attacks.

Environmental Justice

Under the No Action Alternative, there would not have been any disproportionately high and adverse environmental impacts on minority or low-income populations due to construction or normal operations of the 2004 CMRR-NF and RLUOB.

Under the Modified CMRR-NF Alternative, the potential impacts to the general population from construction, operations, and transportation would be small. Additionally, there are not expected to be any disproportionately high and adverse impacts on minority or low-income populations under this alternative. There are not expected to be any significant impacts on cultural resources within LANL or surrounding communities, or any significant impacts on air or water quality as a result of implementing this alternative. There are not expected to be any significant impacts on transportation routes or traffic in the area surrounding LANL during construction or operations as a result of implementing this alternative. A separate analysis was performed on the specific impacts of transporting radioactive materials from LANL to Pojoaque, New Mexico, and from Pojoaque to Santa Fe, New Mexico, transportation routes that include sections through tribal lands. The results of this analysis show that the incident-free population risks are small, at most 2×10^{-5} or 1 chance in 50,000 that the radiological dose to the public from this transportation would result in a latent cancer fatality in the affected population. Similarly, accident risks associated with this transportation on these routes are small, at most 4×10^{-4} or 1 chance in 2,500 that a traffic accident involving one of the trucks would result in a fatality in the affected population. Radiological doses from normal operations to all individuals would be low. Under the Modified CMRR-NF Alternative, the estimated average annual dose to a nonminority individual from operation of the Modified CMRR-NF and RLUOB would be 0.0037 millirem compared to 0.0033 millirem for the average minority individual; the average annual dose to a non-low-income individual would be 0.0036 millirem compared to 0.0027 millirem for the average low-income individual.

A similar analysis was done for individuals living within 5, 10, and 20 miles (8, 16, and 32 kilometers) of TA-55, and the results were largely the same. For the most part, the estimated average annual dose to nonminority and non-low-income individuals would be the same or higher than the estimated doses to the average minority and low-income individuals. The only instance where the estimated average annual dose to minority individuals exceeded the estimated average annual dose to nonminority individuals was for those individuals living within 5 miles (8 kilometers) of TA-55 (0.042 millirem compared to 0.039 millirem). In both cases, these doses are very low; the difference in estimated annual dose of 0.003 millirem would be less than 1/1,000 of a percent of the approximately 480 millirem that a person residing near LANL would receive annually from background radiation.

Under the Continued Use of CMR Building Alternative, the potential impacts to the general population from operations and transportation would be small. There are no construction impacts under this alternative. There are not expected to be any disproportionately high and adverse impacts on minority or low-income populations under this alternative. There are not expected to be any impacts on cultural resources within LANL as a result of implementing this alternative because no land would be disturbed. There are not expected to be any significant impacts on air or water quality as a result of implementing this alternative. There are not expected to be any significant impacts on transportation routes or traffic in the area surrounding LANL as a result of implementing this alternative. The average annual dose to a nonminority individual from the continued operation of the CMR Building would be 0.000039 millirem compared to 0.000027 millirem for the average minority individual, and the average annual dose to a non-low-income individual would be 0.000034 millirem compared to 0.000019 millirem for the average low-income individual. A similar analysis was done for individuals living within 5, 10, and 20 miles (8, 16, and 32 kilometers) of TA-3, and the results were largely the same. For the most part, the average annual dose to nonminority and non-low-income individuals would be the same or higher than the estimated doses to the average minority and low-income individuals. The only instances where the estimated average annual dose to minority individuals exceeded the estimated average annual dose to nonminority individuals was for those individuals living within 5 and 10 miles (8 and 16 kilometers) of TA-3 (0.00076 millirem compared to 0.00069 millirem and 0.0005 millirem compared to 0.00048 millirem, respectively). These doses are very low; the difference in estimated annual dose of up to 0.00007 millirem would be about 1/7,000 of a percent of the approximately 480 millirem that a person residing near LANL would normally receive annually from background radiation.

Doses under the Continued Use of CMR Building Alternative would be less than those projected under the Modified CMRR-NF Alternative due to the reduced operations in the CMR Building as a result of safety and seismic concerns that are limiting the work that can be safely conducted there. A special pathways receptor analysis was performed in support of the 2008 *LANL SWEIS*. In this analysis, it was determined that a special pathways receptor who consumed increased amounts of fish, deer, and elk from the areas surrounding LANL; surface water and Indian tea (Cota); and other potentially contaminated foodstuffs could receive an additional dose of up to 4.5 millirem per year from those special pathways (see Appendix C, Section C.1.4, of the 2008 *LANL SWEIS* [DOE 2008a]). Doses associated with normal operation of the proposed CMRR-NF would not be expected to increase these doses. Therefore, if the MEI associated with the *CMRR-NF SEIS* were also assumed to be a special pathways receptor, their maximum dose would be up to 4.8 millirem per year (4.5 millirem associated with special pathways and about 0.3 millirem associated with normal operations of the 2004 CMRR-NF or Modified CMRR-NF). This dose is low; it would represent an increase of 1 percent above the approximately 480 millirem that a person residing near LANL would normally receive annually from background radiation. In terms of increased risk of a fatal cancer from the special pathways dose plus the dose from normal operations of the CMRR-NF, it would represent an annual estimated risk of 3×10^{-6} or about 1 chance in 333,000.

Waste Management

Under the No Action Alternative, waste generation from construction of the 2004 CMRR-NF and RLUOB would have been about 578 tons (524 metric tons) and, based on later information from construction of RLUOB, it is now understood that this number was underestimated. Operation of the 2004 CMRR-NF and RLUOB would have resulted in about 88 cubic yards (67 cubic meters) of transuranic waste, 2,640 cubic yards (2,020 meters) of low-level radioactive waste, 26 cubic yards (20 cubic meters) mixed low-level radioactive waste, and about 12.4 tons (11 metric tons) of chemical waste per year. Operation of the 2004 CMRR-NF and RLUOB would have resulted in about 2.7 million gallons (10 million liters) of low-level liquid radioactive waste annually that would have been treated at RLWTF and 7.2 million gallons (27 million liters) of sanitary wastewater per year that would have been sent to the Sanitary Wastewater Systems Plant. The *CMRR EIS* did not include an estimate for solid waste resulting from operations.

Under the Modified CMRR-NF Alternative, waste generation from construction of the Modified CMRR-NF would be larger than that estimated for construction of the 2004 CMRR-NF (2,600 tons [2,360 metric tons] compared to 578 tons [524 metric tons]) because the Modified CMRR-NF is a larger facility to address the seismic concerns associated with the 2004 CMRR-NF design, and it is now known that the earlier estimate was underestimated based on the amount of waste generated during construction of RLUOB. Operation of the Modified CMRR-NF and RLUOB would result in the same amount of waste annually as estimated for the No Action Alternative, with the exception of 95 tons (86 metric tons) of solid waste that is included in the estimates for the Modified CMRR-NF and RLUOB. Sanitary wastewater would be sent to the Sanitary Wastewater Systems Plant. Also, due to efforts to reduce the amount of liquid waste being generated as a result of LANL operations, modifications of operations at the Modified CMRR-NF and RLUOB are estimated to result in a much smaller amount of low-level liquid radioactive waste, about 344,000 gallons (1.3 million liters), which would be treated at RLWTF. The amount of radioactive waste generated under this alternative would be consistent with the levels analyzed in the 2008 *LANL SWEIS* and would be a fraction of the annual amount generated at LANL. No additional treatment or disposal facilities would be needed at LANL to handle these wastes.

Under the Continued Use of CMR Building Alternative, annual waste generation rates from operation of the CMR Building and RLUOB would be lower than those estimated under the Modified CMRR-NF Alternative because operations in the CMR Building are currently limited due to safety and seismic concerns. The amount of radioactive waste generated under this alternative would be lower than the levels analyzed in the 2008 *LANL SWEIS* and would be a fraction of the annual estimated waste generated at LANL. No new treatment or disposal facilities would be needed at LANL to handle these wastes.

Transportation and Traffic

Transportation impacts associated with construction of the 2004 CMRR-NF were analyzed in the *CMRR-NF SEIS* to augment the analysis in the 2003 *CMRR EIS*. A transportation impact assessment was conducted in the 2003 *CMRR EIS* for the one-time shipment of special nuclear material during the transition from the existing CMR Building to the CMRR-NF. The public would not have received any measurable exposure. The *CMRR-NF SEIS* estimated that 489 truck trips would have been required for delivery of construction materials. There would have been no change in the level of service of roadways in the vicinity of LANL during the construction period. Employees currently working at the existing CMR Building and other facilities at LANL would have relocated to the CMRR Facility for operations there. There would have been no impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL over the existing conditions.

Under the Modified CMRR-NF Alternative, transportation requirements associated with construction of the Modified CMRR-NF would be up to 38,000 and 29,000 offsite truck trips (about 4,300 and 3,300 trips per year on average) under the Deep or Shallow Excavation Option, respectively. These trips would be required to deliver construction materials and equipment to LANL in support of the construction effort, as well as offsite trips related to removing construction waste from the site. This number of truck trips is projected to result in up to 3 additional (2.5) truck accidents over the life of the construction project and 0 (0.3) additional fatalities. Operation of the Modified CMRR-NF and RLUOB would result in additional trips off site associated with the transportation of radioactive waste to treatment and disposal facilities. These trips would result in annual doses of about 2.5 person-rem to the crew of the trucks shipping this waste. No latent cancer fatalities are expected among the crews as a result of these doses. The trips would also result in estimated doses of about 0.8 person-rem per year to the public along the transportation routes. No latent cancer fatalities are expected in the public as a result of these doses. These waste shipments are projected to result in less than 1 additional truck accident annually and 0 (7×10^{-3}) additional fatalities. There is a greater chance of structural damage to Pajarito Road under the Modified CMRR-NF Alternative due to the greater total weight of materials that would be transported on the roadway and the longer duration of transports. Pajarito Road may be sufficiently strong to support the transports without damage if the underlying soil is strong. Should damage occur to the roadway surface, Pajarito road may require rehabilitation or repair sooner than currently anticipated. No change in the level of service of roadways in the vicinity of LANL is anticipated during the construction period. Because no net increase in operations employees is anticipated under the Modified CMRR-NF Alternative, there would be no significant impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL.

Under the Continued Use of CMR Building Alternative, there would be no transportation requirements associated with construction. Operation of the CMR Building and RLUOB would result in additional trips off site associated with the transportation of radioactive waste to treatment and disposal facilities. These trips would result in annual doses of about 0.3 person-rem to the crew of the trucks shipping this waste. No latent cancer fatalities are expected among the crews as a result of these doses. The trips would also result in estimated doses of about 0.1 person-rem per year to the public along the transportation routes. No latent cancer fatalities are expected in the public as a result of these doses. These waste shipments are projected to result in less than 1 additional truck accident annually and 9×10^{-4} additional fatalities. The estimates of doses and accidents associated with these shipments are less than those projected under the Modified CMRR-NF Alternative because less waste is generated annually at the CMR Building and RLUOB due to reduced operations at the facility compared to full operation of the Modified CMRR-NF and RLUOB. Since continued CMR Building and RLUOB operations would not result in an increase in the number of employees currently working on the site, no changes in traffic are anticipated. There would be no change in the impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL over the existing conditions.

Table S–2 Summary of Environmental Consequences of Alternatives

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Land Use and Visual Resources			
Construction	26.75 acres of land would have been used, much of it presently disturbed. Some activities would have occurred on land previously designated "Reserve." Construction would have altered views along Pajarito Road; however, the road is not open to the public. The breakdown of land uses includes the following: • CMRR-NF site – 4.75 acres • RLUOB site – 4 acres (completed) • Laydown areas/concrete batch plant – 7 acres • Parking lot – 5 acres • Road realignment – 6 acres	Up to 147 acres of land would be used under the Deep Excavation Option and up to 127 acres under the Shallow Excavation Option. Many project elements would occur in areas presently designated as "Reserve." Construction would alter views along Pajarito Road; however, the road is not open to the public. Areas of temporary disturbance (for example, laydown areas and spoils storage areas) would be restored to their original land use designation following project completion. Restoration of the parking lot in TA-72 would mitigate those long-term visual impacts. The breakdown of land uses includes the following: • CMRR-NF site – 4.8 acres • Laydown areas/concrete batch plants – 60 acres • Spoils areas – 30 acres (Deep Excavation Option), 10 acres (Shallow Excavation Option) • Parking lots – up to 18 acres • Power upgrades – 9.1 acres • Pajarito Road realignment – 3.4 acres • Stormwater detention ponds – 2.5 acres • TA-50 electrical substation – 1.4 acres • Construction support/laydown area – 19.1 acres	Not applicable, no new construction
Operations	Permanent land disturbance would have affected about 13.75 acres, including the building site and parking lot. The new CMRR-NF would have blended with the industrial look of TA-55.	Permanent land disturbance under both the Deep and Shallow Excavation Options would affect about 12 acres, including the building site, the Pajarito Road realignment, the TA-50 electrical substation, and stormwater detention ponds. The road realignment, power substation, and stormwater detention ponds would result in changes in present land use. The new CMRR-NF would blend with the industrial look of TA-55.	No change in current land use

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building; TA = technical area.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Note: To convert acres to hectares, multiply by 0.40469.

Resource/Material Category	***No Action Alternative*** [a]	***Modified CMRR-NF Alternative***		***Continued Use of CMR Building Alternative***
Site Infrastructure [b]				
Construction		**Deep Excavation**	**Shallow Excavation**	
Electricity (MW-hours per year)	63	31,000 [c]		Not applicable
Water (million gallons per year)	0.75	5	4	Not applicable
Propane (gallons per year)	Not available	19,200	19,200	Not applicable
Operations				
Electricity (MW-hours per year)	19,300	161,000		59,000 [d]
Natural gas (million cubic feet per year)	Not available	58		38 [d]
Water (million gallons per year)	10.4	16		7 [d]
Air Quality and Noise				
Construction	Criteria pollutant concentrations would have remained below standards. Annual greenhouse gas emissions would have been below CEQ guidance threshold for more-detailed evaluation and about 1 percent of site-wide generation.	Criteria pollutant concentrations would remain below standards. Annual greenhouse gas emissions would be below draft CEQ guidance threshold for more-detailed evaluation and about 7 percent of site-wide generation.		Not applicable
	Slight noise increase to offsite public would have been realized from construction activities and traffic.	Slight noise increase to offsite public would be realized from construction activities and traffic.		Not applicable
Operations	Periodic testing of emergency backup generators would not have caused standards to be exceeded. Annual greenhouse gas emissions would have been below CEQ guidance threshold for more-detailed evaluation and about 3 percent of site-wide generation. No change in noise levels from LANL site operations would have been realized.	Periodic testing of emergency backup generators would not cause standards to be exceeded. Annual greenhouse gas emissions would be below draft CEQ guidance threshold for more-detailed evaluation and about 25 percent of site-wide generation.[e] No change in noise levels from LANL site operations would be realized.		Periodic testing of emergency backup generators would not cause standards to be exceeded. Annual greenhouse gas emissions would be below CEQ guidance threshold for more-detailed evaluation and about 10 percent of site-wide generation. No change in noise levels from LANL site operations would be realized.

CEQ = Council on Environmental Quality; CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; MW = megawatts.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] Site infrastructure estimates for construction and operation have been re-estimated for the Modified CMRR-NF compared to those included in the *CMRR EIS*. Estimates included in the *CMRR EIS* were based on preconceptual design information and are now known to have been underestimated in a number of areas.

[c] Annual site infrastructure estimates for electricity use for the Modified CMRR-NF Alternative round to 31,000 megawatt-hours for both the Deep and Shallow Excavation construction options. Although not apparent due to the rounding, the Deep Excavation Option would require more electricity over the life of the alternative for mixing the additional concrete for the layer of low-slump concrete fill.

[d] Operational requirements for the CMR Building are not metered separately and are accounted for in present site usage totals in the infrastructure table in Chapter 3 of the *CMRR-NF SEIS*. Only RLUOB requirements are included in this column to represent the increase in site requirements associated with the Continued Use of CMR Building Alternative.

[e] These greenhouse gases emitted by operations at the Modified CMRR-NF and RLUOB would add a relatively small increment (0.001 percent) to emissions of these gases in the United States.

Note: To convert cubic feet to cubic meters, multiply by 0.028317; gallons to liters, by 3.7854.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Geology and Soils			
Construction	A site survey and foundation study would have been conducted as necessary to confirm site geologic characteristics for facility engineering purposes.	*Deep Excavation Option* – The poorly welded tuff layer would be over-excavated and replaced with concrete fill material. The site would be excavated to a depth of 130 feet; about 545,000 cubic yards of materials remain to be excavated. *Shallow Excavation Option* – Construction would occur in the layer above the poorly welded tuff layer. The site would be excavated to a depth of 58 feet; about 236,000 cubic yards of material remain to be excavated. Under either option, excavated material would be stockpiled for future beneficial reuse.	Not applicable
Operations	There would not have been any impact on geology and soils.	No impact on geology and soils	No impact on geology and soils
Surface-Water and Groundwater Quality			
Construction	Potential temporary impacts could have resulted from stormwater runoff. Appropriate soil erosion and sediment control measures and spill prevention practices would have minimized suspended sediment and material transport and reduced potential water quality impacts.	Same as No Action Alternative, but a larger area of land and additional technical areas would be affected by the construction effort (see Land Use). In addition, under the Deep Excavation Option, control measures would be needed for much larger amounts of excavated spoils. In addition, one stormwater detention pond would be enlarged and five new ponds built to collect runoff during construction.	Not applicable
Operations	No impacts on surface water or groundwater would have been expected.	No impacts on surface water or groundwater.	No impacts on surface water or groundwater

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; NNSA = National Nuclear Security Administration; PC = performance category.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Note: To convert feet to meters, multiply by 0.3048; cubic yards to cubic meters, by 0.76455.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Ecological Resources			
Construction	Some vegetation and wildlife habitat would have been removed. Implementation of this alternative may have affected, but would not have adversely affected, the Mexican spotted owl.	*Deep Excavation Option* – Additional habitat loss from use of about five times more land area than under the No Action Alternative. The project may affect, but would not adversely affect, the Mexican spotted owl or the southwestern willow flycatcher. Some project elements may remove a small portion of potential habitat for the Mexican spotted owl. Potential southwestern willow flycatcher habitat may be indirectly affected by stormwater runoff and erosion from spoils storage in the area. *Shallow Excavation Option* – Similar to the Deep Excavation Option; however, slightly less potential habitat would be removed due to the decrease in spoils storage area requirements; potential southwestern willow flycatcher habitat would not be affected.	Not applicable
Operations	None	None	None
Cultural and Paleontological Resources			
Construction/Operations	Resources in affected areas would have been protected by avoidance. Sites would have been protected and monitored to ensure their protection.	Resources in affected areas would be protected by avoidance. Sites would be protected and monitored to ensure their protection.	Not applicable

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; NNSA = National Nuclear Security Administration; PC = performance category.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Socioeconomics			
Construction	Employment would have resulted in little socioeconomic effect.	Peak direct (790 workers) plus indirect (450 workers) employment would represent a relatively small percentage of the total labor force in the four-county region of influence (less than 1 percent).	Not applicable
Operations	Approximately 550 workers would have been at the CMRR Facility (2004 CMRR-NF and RLUOB); they would have come from the CMR Building and other facilities at LANL so the facility would not have increased employment or changed socioeconomic conditions in the region.	Approximately 550 workers would be at the CMRR Facility (Modified CMRR-NF and RLUOB); they would come from the CMR Building and other facilities at LANL so the facility would not increase employment or change socio-economic conditions in the region.	Approximately 210 workers would continue work at the CMR Building, many of whom would be among the staff members whose offices would be relocated to RLUOB. Another 140 workers would work in RLUOB. Workers would come from the CMR Building and other facilities at LANL so there would not be an increase in employment or a change in socioeconomic conditions in the region.

CMR = Chemistry and Metallurgy Research; CMRR = Chemistry and Metallurgy Research Building Replacement; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; NNSA = National Nuclear Security Administration; PC = performance category; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Resource/Material Category	***No Action Alternative*** [a]	***Modified CMRR-NF Alternative***	***Continued Use of CMR Building Alternative*** [b]
Human Health			
Normal Operations			
Offsite population			
Dose (person-rem per year)	1.9	1.8	0.016
Annual population LCF risk	1×10^{-3}	1×10^{-3}	1×10^{-5}
MEI			
Dose (millirem per year)	0.33	0.31	0.0023
Annual LCF risk	2×10^{-7}	2×10^{-7}	1×10^{-9}
Workers			
Worker dose (person-rem per year)	61	60	24
Annual worker population LCF risk	4×10^{-2}	4×10^{-2}	1×10^{-2}
Average worker dose (millirem per year)	110	109	68
Average worker annual LCF risk	7×10^{-5}	7×10^{-5}	4×10^{-5}
Facility Accidents (maximum annual cancer risk [LCFs]) [c]			
Population (risk)	8×10^{-1}	5×10^{-5}	4×10^{-3}
MEI (risk)	7×10^{-3}	2×10^{-7}	1×10^{-5}
Noninvolved worker (risk)	1×10^{-2}	7×10^{-6}	3×10^{-4}

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LCF = latent cancer fatality; MEI = maximally exposed individual; NNSA = National Nuclear Security Administration; PC = performance category.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] The impacts shown for normal operations and facility accidents under the Continued Use of CMR Building Alternative reflect reduced operations at the facility due to safety and seismic concerns.

[c] Facility accident risk values include a dose-to-risk factor of 0.0006 LCFs per rem for population risks and MEI and noninvolved worker doses if less than 20 rem; a dose-to risk factor of 0.0012 LCFs per rem for MEI and noninvolved worker doses equal or greater than 20 rem; and the probability of the accident occurring.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Environmental Justice			
Construction/Operations	There would not have been any disproportionately high and adverse environmental impacts on minority or low-income populations due to construction or operations.	Impacts on all individuals would be low. There would be no disproportionately high and adverse environmental impacts on minority or low-income populations due to construction, operations, or transportation. Annual doses to all individuals would be low, and the average individual radiological impacts on members of minority and low-income groups would be less than or comparable to impacts on the average nonminority or non-low-income member of the general population. For the 50-mile (80-kilometer) population: • Average dose to nonminority individual: 0.0037 millirem • Average dose to minority individual: 0.0033 millirem • Average dose to non-low-income individual: 0.0036 millirem • Average dose to low-income individual: 0.0027 millirem A special pathways analysis was performed and found that impacts on special pathways consumers would be negligible.	Impacts on all individuals would be low. There would be no disproportionately high and adverse environmental impacts on minority or low-income populations due to construction, operations, or transportation. Annual doses to all individuals would be low, and the average individual radiological impacts on members of minority and low-income groups would be less than or comparable to impacts on the average nonminority or non-low-income member of the general population. For the 50-mile (80-kilometer) population: • Average dose to nonminority individual: 0.000039 millirem • Average dose to minority individual: 0.000027 millirem • Average dose to non-low-income individual: 0.000034 millirem • Average dose to low-income individual: 0.000019 millirem A special pathways analysis was performed and found that impacts on special pathways consumers would be negligible.

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet the NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative* [b]
Waste Management			
Construction			
Solid waste (tons) [c]	578	2,600	Not applicable
Operations (annual generation rates)			
Transuranic waste (cubic yards)	88	88	8.2
Low-level radioactive waste (cubic yards)	2,640	2,640	310
Mixed low-level radioactive waste (cubic yards)	26	26	4.1
Chemical waste (tons)	12.4	12.4	1.4
Solid waste (tons)	Not available	95	60
Sanitary wastewater (gallons)	7,200,000	10,800,000	5,220,000
Liquid low-level radioactive waste (gallons)	2,700,000 [d]	344,000	163,000

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] The impacts shown for operations under the Continued Use of CMR Building Alternative reflect reduced operations at the facility due to safety and seismic concerns.

[c] The construction waste estimate for the No Action Alternative was based on preconceptual design information and is now known to have been underestimated.

[d] The liquid low-level radioactive waste estimate for the No Action Alternative was based on assumptions and is now known to have been overestimated.

Note: To convert gallons to liters, multiply by 3.7854; tons to metric tons, by 0.90718; cubic yards to cubic meters, by 0.76455.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*		*Continued Use of CMR Building Alternative*
Transportation and Traffic				
Transportation				
Construction				
Offsite truck trips	Not estimated	Deep Excavation Option – 38,000	Shallow Excavation Option – 29,000	Not applicable
Traffic fatalities	Not estimated	Deep Excavation Option – 0.3	Shallow Excavation Option – 0.2	Not applicable
Operations [b] **(based on annual shipment rate)**				
Incident-free				
Public: (person-rem/LCF) Total Route LANL to Pojoaque segment Pojoaque to Santa Fe segment	Not estimated [c]	 $0.8 / 5 \times 10^{-4}$ $0.02 / 1 \times 10^{-5}$ $0.04 / 2 \times 10^{-5}$		 $0.1 / 6 \times 10^{-5}$ [d] $0.003 / 2 \times 10^{-6}$ $0.005 / 3 \times 10^{-6}$
Crew (person-rem/LCF)	Not estimated [c]	$2.5 / 2 \times 10^{-3}$		$0.3 / 2 \times 10^{-4}$ [d]
Transportation accidents				
Public radiological risk	Not estimated [c]	1×10^{-7}		1×10^{-8} [d]
Public traffic fatality risk	Not estimated [c]	7×10^{-3}		9×10^{-4} [d]
Traffic				
Construction	Personnel and materials transportation would have increased traffic on local roads but would not have changed the level of service on these roadways. No abnormal damage to roadway pavement would have been anticipated.	Personnel and materials transportation would increase traffic on local roads but would not change the level of service on these roadways. No abnormal damage to roadway pavement would be anticipated.		Not applicable
Operations	Minimal impact on traffic would have been expected; some traffic that previously terminated in TA-3 would have continued through and proceeded down Pajarito Road to TA-55.	Minimal impact on traffic; some traffic that previously terminated in TA-3 would continue through and proceed down Pajarito Road to TA-55.		No change from current traffic conditions in TA-3.

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; LCF = latent cancer fatality; TA = technical area.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet the NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] LCF values include a dose-to-risk factor of 0.0006 LCFs per rem for crew and public.

[c] The *CMRR EIS* did not include an analysis of the shipment of radioactive waste off site because it was assumed that nearly all of the waste generated from CMRR Facility operations would be able to be disposed of onsite at LANL.

[d] The impacts shown under the Continued Use of CMR Building Alternative reflect reduced operations at the facility due to safety and seismic concerns.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Decontamination, Decommissioning, and Demolition (impacts applicable to all alternatives)			
CMR Building (annual based on a 2-year decommissioning, decontamination, and demolition period)			
Waste [b]			
Transuranic (cubic yards)	Not estimated	75	
Low-level radioactive (cubic yards)	16,000	19,000	
Mixed low-level radioactive (cubic yards)	Not estimated	140	
Radioactive liquid waste (gallons)	Not estimated	68,000	
Chemical (tons)	Not estimated	130	
Solid (cubic yards)	20,000	53,000	
Transportation [c, d]			
Incident-free			
Public: (person-rem/LCFs) Total LANL to Pojoaque segment Pojoaque to Santa Fe segment	Not estimated	$0.4 / 3 \times 10^{-4}$ $0.01 / 1 \times 10^{-5}$ $0.02 / 1 \times 10^{-5}$	
Crew (person-rem/LCFs)	Not estimated	$1.9 / 1 \times 10^{-3}$	
Transportation accidents			
Public radiological risk	Not estimated	1×10^{-7}	
Public traffic fatality risk	Not estimated	4×10^{-2}	
CMRR-NF	Due to the relative sizes of the facilities, waste quantities are expected to be comparable to those for CMR Building decontamination and demolition.		Not applicable

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; LCF = latent cancer fatality.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for the *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section S.4, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in the *CMRR-NF SEIS* as an alternative that would meet the NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] The *CMRR EIS* included estimates of the amount of low-level radioactive waste and solid waste expected from decontamination and decommissioning of the CMR Building. Updated waste projections for this effort are included in the estimates for the Modified CMRR-NF and Continued Use of CMR Building Alternatives.

[c] LCF values include a dose-to-risk factor of 0.0006 LCFs per rem for crew and the public.

[d] The *CMRR EIS* did not include an analysis of the offsite shipment of radioactive waste from decontamination and decommissioning of the CMR Building for disposal.

Note: To convert gallons to liters, multiply by 3.7854; tons to metric tons, by 0.90718; cubic yards to cubic meters, by 0.76455.

S.12.2 Environmental Impacts Common to Multiple Alternatives

S.12.2.1 Impacts During the Transition from the CMR Building to the New CMRR-NF and RLUOB

Under the No Action or Modified CMRR-NF Alternative, there would be a transition period during which CMR operations at the existing CMR Building and other locations at LANL would be moved to the new CMRR-NF. Because RLUOB is already constructed, activities that do not rely on the CMRR-NF could be transitioned to RLUOB earlier. During CMRR-NF construction, the CMR Building and RLUOB would be operating. During the 3-year transition, both the CMR Building and the CMRR-NF would be operating, although at reduced levels, while RLUOB operations would continue. At the existing CMR Building, where operational restrictions would remain in effect, operations would decrease as operations move to the new CMRR-NF (beginning in 2014 for the 2004 CMRR-NF and 2020 for the Modified CMRR-NF). At the new CMRR-NF, levels of operations would increase as the facility becomes fully operational. In addition, routine onsite shipment of AC and MC samples would continue to take place while both facilities are operating. With both facilities operating at reduced levels at the same time, the combined demand for electricity, water, and manpower to support transition activities during this period may be higher than what would be required by the separate facilities. Nevertheless, the combined total impacts during this transition phase are expected to be less than the impacts attributed to the level of CMR operations analyzed under the Expanded Operations Alternative in the 2008 *LANL SWEIS.*

Also during the transition phase, the risks for accidents would change at both the existing CMR Building and the new CMRR-NF. At the existing CMR Building, the radiological material at risk and associated operations and storage would decline as material is transferred to the new CMRR-NF. This would have the positive effect of reducing the risk for accidents at the CMR Building. Conversely, at the new CMRR-NF, as the amount of radioactive material at risk and associated operations increase towards full operation, the risk from accidents would increase. However, the improvements in design and technology at the new CMRR-NF would have the positive effect of reducing overall accident risks when compared to the accident risks at the existing CMR Building. Because neither facility would be operating at its full capacity during transition, the expected net effect would be for the risk for accidents at each facility to be lower than the accident risks at either the existing CMR Building or the fully operational new CMRR-NF.

S.12.2.2 CMR Building and CMRR Facility Disposition Impacts

Under all alternatives in the *CMRR-NF SEIS*, the CMR Building would undergo DD&D. CMR Building DD&D would be conducted in a manner protective of all environmental resources, including air quality, surface-water and groundwater quality, ecological and cultural resources, and human health. The CMR Building has been deemed eligible for listing in the NRHP due to its association with important events during the Cold War years and its architectural and engineering significance (Garcia, McGehee, and Masse 2009). In conjunction with the State Historic Preservation Office, NNSA has developed documentation measures to reduce adverse effects on NRHP-eligible properties at LANL. These measures are incorporated into formal memoranda of agreement between NNSA and the New Mexico Historic Preservation Division. Typical memoranda of agreement terms include the preparation of a detailed report containing the history and description of the affected properties; such a report may need to be prepared for the CMR Building prior to any demolition activities.

Because activities at the CMR Building over more than a 50-year period have resulted in areas having varying levels of contamination, DD&D is projected to generate a relatively large annual quantity of radioactive, chemical, and solid wastes, as summarized in Table S–2. Annual waste generation rates in Table S–2 may be higher than those that would actually occur because they are based on completing DD&D in 2 years. Nonetheless, the quantities and types of wastes to be generated are expected to be within the capacity of existing waste management systems. Risks associated with transporting DD&D wastes to offsite treatment and disposal facilities are expected to be very small; no fatalities are expected along waste transport routes.

DD&D of the new CMRR-NF would be considered at the end of its lifetime, designed to be 50 years. For either the 2004 CMRR-NF or the Modified CMRR-NF, impacts of DD&D of the CMRR-NF are expected to be comparable to those of DD&D of the CMR Building. Although activities involving radioactive materials that would be performed at the CMRR-NF are similar to those currently performed at the CMR Building, construction and operation of the CMRR-NF would reflect over 50 years of experience in facility design and operation and contamination control, with implementation of pollution prevention and waste minimization practices.

S.12.2.3 Summary of Cumulative Impacts

In accordance with CEQ regulations, a cumulative impacts analysis was conducted for the *CMRR-NF SEIS* that included the incremental impacts of the action added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Based on this analysis, the only area of concern that would be significantly impacted by the actions being considered in the *CMRR-NF SEIS* in combination with other actions would be infrastructure requirements. Implementation of the Modified CMMR-NF Alternative would result in the greatest cumulative infrastructure impacts when added to the projected infrastructure requirements for other LANL activities and the demands of other non-LANL users. In the near term, no infrastructure capacity constraints are anticipated. LANL operational demands to date on key infrastructure resources, including electricity and water, have been below the levels projected in the 2008 *LANL SWEIS* (DOE 2008a) and well within site capacities. For example, actual electric peak load for LANL in 2010 was approximately 69 megawatts compared to the 109 megawatts projected in the 2008 *LANL SWEIS* (LANL 2011a:Infrastructure, 014).

Utility requirements to operate the Modified CMRR-NF are higher than those associated with operating either the existing CMR Building (under the Continued Use of CMR Building Alternative) or those estimated for the 2004 CMRR-NF (under the No Action Alternative). Should the utility requirements be fully realized, LANL and Los Alamos County could cumulatively require more than 100 percent of the current electric peak load capacity, 71 percent of its total available electrical capacity, 92 percent of the available water capacity, and 28 percent of the available natural gas capacity. Inclusion of infrastructure requirements associated with the construction of alternatives being analyzed in the *Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste* at LANL could result in an additional increase in the requirements for electric peak load by 3 percent, electricity by 1 percent, and water by less than 1 percent (DOE 2011a).

Of most concern is the potential to exceed peak electric load capacity. However, regardless of the decisions to be made regarding the CMRR-NF, LANL is studying the possibility of adding a third transmission line and/or re-conductoring the existing two transmission lines to increase transmission line capacities from 107 (firm) to 240 megawatts, which would provide additional capacity across the site (LANL 2011a:Infrastructure, 007).

As owner and operator of the Los Alamos Water Supply System, Los Alamos County is now the primary water supplier serving LANL. DOE transferred ownership of 70 percent of its water rights to the county and leases the remaining 30 percent. LANL is currently using approximately 76 percent of its water allotment, and the county is using about 98 percent of its allotment. County concerns about its water availability will be heightened if development plans move forward for additional homes in White Rock and Los Alamos on land that is being conveyed to the county from LANL.

Los Alamos County has implemented a *Conservation Plan for Water and Energy*. In this plan, the county describes a number of steps it has taken to conserve water, including an effluent reuse washwater system associated with the county's wastewater treatment plant that is estimated to conserve approximately 12 million gallons (45 million liters) annually (LADPU 2010). Los Alamos County has the right to use up to 390 million gallons (1.5 billion liters) of San Juan-Chama Transmountain Diversion Project water annually and is in the process of determining how best to make this water accessible to the county (LADPU 2010). Neither the conservation savings nor the San Juan-Chama water has been included in the analysis shown above.

In addition, the use of the Sanitary Effluent Reclamation Facility at LANL may be expanded to include other areas of LANL. Plans are to expand the Sanitary Effluent Reclamation Facility to provide additional treatment to treated effluent from the Sanitary Wastewater Systems Plant to allow the reclaimed water to be used to support the nonpotable water demands for the TA-3 Power Plant, the Metropolis Center for Modeling and Simulation, and the Laboratory Data Communications Center. Such expansions could save millions of gallons of water annually.

S.13 Glossary

***actinide* —** Any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium), including uranium and plutonium. All members of this group are radioactive.

***analytical chemistry (AC)* —** The branch of chemistry that deals with the separation, identification, and determination of the components of a sample.

***areas of environmental interest (AEI)* —** Areas within Los Alamos National Laboratory (LANL) that are being managed and protected because of their significance to biological or other resources. Habitats of threatened and endangered species that occur or may occur at LANL are designated as AEIs. In general, a threatened and endangered species AEI consists of a core area that contains important breeding or wintering habitat for a specific species and a buffer area around the core area. The buffer protects the area from disturbances that would degrade the value of the core area to the species.

***Atomic Energy Commission* —** A five-member commission, established by the Atomic Energy Act of 1946, to supervise nuclear weapons design, development, manufacturing, maintenance, modification, and dismantlement. In 1974, the Atomic Energy Commission was abolished, and all functions were transferred to the U.S. Nuclear Regulatory Commission and the Administrator of the Energy Research and Development Administration. The Energy Research and Development Administration was later terminated, and functions vested by law in the Administrator were transferred to the Secretary of Energy.

***attractiveness level* —** A categorization of nuclear material types and compositions that reflects the relative ease of processing and handling required to convert that material to a nuclear explosive device.

***categories of special nuclear material (Categories I, II, III, and IV)* —** A designation determined by the quantity and type of special nuclear material or a designation of a special nuclear material location based on the type and form of the material and the amount of nuclear material present. A designation of the significance of special nuclear material based upon the material type, form of the material, and amount of material present in an item, grouping of items, or in a location.

***classified information* —** (1) information that has been determined pursuant to Executive Order 12958, any successor order, or the Atomic Energy Act of 1954 (42 U.S.C. 2011) to require protection against unauthorized disclosure; (2) certain information requiring protection against unauthorized disclosure in the interest of national defense and security or foreign relations of the United States pursuant to Federal statute or Executive order.

***collective dose* —** The sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation. Collective dose is expressed in units of person-rem or person-sieverts.

***criteria pollutants* —** An air pollutant that is regulated by National Ambient Air Quality Standards (NAAQS). The U.S. Environmental Protection Agency must describe the characteristics and potential health and welfare effects that form the basis for setting, or revising, the standard for each regulated pollutant. Criteria pollutants include sulfur dioxide; nitrogen dioxide; carbon monoxide; ozone; lead; and two size classes of particulate matter, less than 10 micrometers (0.0004 inch) in diameter, and less than 2.5 micrometers (0.0001 inch) in diameter. New pollutants may be added to, or removed from, the list of criteria pollutants as more information becomes available.

cultural resources — Archaeological sites, historical sites, architectural features, traditional use areas, and Native American sacred sites.

cumulative impacts — Impacts on the environment that result when the incremental impact of a proposed action is added to the impacts from other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes the other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

decommissioning — Retirement of a facility, including any necessary decontamination and/or dismantlement.

decontamination — The actions taken to reduce or remove substances that pose a substantial present or potential hazard to human health or the environment, such as radioactive or chemical contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques.

design-basis earthquake — The earthquake that a system, component, or structure is designed to withstand and maintain a certain level of performance. For a Performance Category 3 facility, the design-basis earthquake has a return period of 2,500 years.

detention pond — An area where excess stormwater is collected and stored or held temporarily to prevent flooding and erosion.

dose (radiological) — A measure of the energy imparted to matter by ionizing radiation. A generic term meaning absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or committed equivalent dose. The unit of dose is the rem or rad.

endangered species — Plants or animals that are in danger of extinction through all or a significant portion of their ranges and that have been listed as endangered by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act and its implementing regulations (50 CFR Part 424). The lists of endangered species can be found in 50 CFR 17.11 (wildlife), 50 CFR 17.12 (plants), and 50 CFR 222.23(a) (marine organisms).

engineered backfill — Material that is specially prepared to refill the excavation surrounding the building and restore the former ground surface.

environmental impact statement (EIS) — The detailed written statement required by Section 102(2)(C) of the National Environmental Policy Act for a proposed major Federal action significantly affecting the quality of the human environment. A U.S. Department of Energy (DOE) EIS is prepared in accordance with applicable requirements of the Council on Environmental Quality National Environmental Policy Act regulations in 40 CFR Parts 1500–1508 and the DOE National Environmental Policy Act regulations in 10 CFR Part 1021. The statement includes, among other information, discussions of the environmental impacts of the proposed action and all reasonable alternatives; adverse environmental effects that cannot be avoided should the proposal be implemented; the relationship between short-term uses of the human environment and enhancement of long-term productivity; and any irreversible and irretrievable commitments of resources.

***environmental justice* —** The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies. Executive Order 12898 directs Federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse effects of agency programs, policies, and activities on minority and low-income populations.

***habitat* —** The environment occupied by individuals of a particular species, population, or community.

***latent cancer fatalities (LCF)* —** Deaths from cancer resulting from, and occurring some time after, exposure to ionizing radiation or other carcinogens.

***low-income population* —** Low-income populations, defined in terms of U.S. Bureau of the Census annual statistical poverty levels (*Current Population Reports*, Series P-60 on Income and Poverty), may consist of groups or individuals who live in geographic proximity to one another or who are geographically dispersed or transient (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. (See *environmental justice* and *minority population*.)

***low-slump concrete* —** A concrete mix that is stiffer and spreads less than a slump concrete when emplaced. Low-slump concrete contains less water than normal concrete.

***material at risk (MAR)* —** The amount of radionuclides (in grams or curies of activity for each radionuclide) available to be acted on by a given physical stress. For facilities, processes, and activities, the MAR is a value representing some maximum quantity of radionuclide present or reasonably anticipated for the process or structure being analyzed. Different MARs may be assigned for different accidents as it is only necessary to define the material in those discrete physical locations that are exposed to a given stress. For example, a spill may involve only the contents of a tank in one glovebox. Conversely, a seismic event may involve all of the material in a building.

***materials characterization (MC)* —** The measurement of basic material properties, and the change in those properties as a function of temperature, pressure, or other factors.

***maximally exposed individual (MEI)* —** A hypothetical individual whose location and habits result in the highest total radiological or chemical exposure (and thus dose) from a particular source for all exposure routes (for example, inhalation, ingestion, direct exposure).

***minority population* —**"Minority" refers to individuals who are members of the following population groups: American Indian or Alaska Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. "Minority populations" include either a single minority group or the total of all minority persons in the affected area. They may consist of groups of individuals living in geographic proximity to one another or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. (See *environmental justice* and *low-income population*.)

***National Register of Historic Places (NRHP)* —** The official list of the Nation's cultural resources that are worthy of preservation. The National Park Service maintains the list under direction of the Secretary of the Interior. Buildings, structures, objects, sites, and districts are included in the NRHP for their importance in American history, architecture, archaeology, culture, or engineering. Properties included in the NRHP range from large-scale, monumentally proportioned buildings to smaller-scale, regionally distinctive buildings. The listed properties are not just of nationwide importance; most are significant primarily at the state or local level. Procedures for listing properties on the NRHP are found in 36 CFR Part 60.

***Notice of Intent* —** The notice that an environmental impact statement will be prepared and considered. The notice is intended to briefly: describe the proposed action and possible alternatives; describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held; and state the name and address of a person within the agency who can answer questions about the proposed action and the environmental impact statement.

***nuclear facility* —** A facility subject to requirements intended to control potential nuclear hazards. Defined in U.S. Department of Energy directives as any nuclear reactor or any other facility whose operations involve radioactive materials in such form and quantity that a significant nuclear hazard potentially exists to the employees or the general public.

***outfall* —** The discharge point of a drain, sewer, or pipe as it empties into a body of water.

***person-rem* —** A unit of collective radiation dose applied to populations or groups of individuals (see collective dose); that is, a unit for expressing the dose when summed across all persons in a specified population or group. One person-rem equals 0.01 person-sieverts.

***pit* —** The core element of a nuclear weapon's primary or fission component. The pit contains a potentially critical mass of fissile material, such as plutonium-239 or highly enriched uranium, arranged in a subcritical geometry and surrounded by some type of casing.

***Record of Decision (ROD)* —** A concise public document that records a Federal agency's decision(s) concerning a proposed action for which the agency has prepared an environmental impact statement (EIS). The ROD is prepared in accordance with the requirements of the Council on Environmental Quality NEPA regulations (40 CFR 1505.2). A ROD identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors balanced by the agency in making the decision, whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not. [See *environmental impact statement (EIS)*.]

***region of influence (ROI)* —** A site-specific geographic area in which the principal direct and indirect effects of actions are likely to occur and are expected to be of consequence for local jurisdictions.

***security* —** An integrated system of activities, systems, programs, facilities, and policies for the protection of restricted data and other classified information or matter, nuclear materials, nuclear weapons and nuclear weapons components, and/or U.S. Department of Energy contractor facilities, property, and equipment.

***special nuclear material(s)* —** A category of material subject to regulation under the Atomic Energy Act, consisting primarily of fissile materials. It is defined to mean plutonium, uranium-233, uranium enriched in the isotopes of uranium-233 or -235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material, but it does not include source material.

***spoils* —** The soil and rock (uncontaminated) removed from an excavation. If excavated material is contaminated with chemical or radioactive constituents, it is managed as waste.

***Stockpile Stewardship Program* —** A program that ensures the operational readiness (that is, safety and reliability) of the U.S. nuclear weapons stockpile by the appropriate balance of surveillance, experiments, and simulations.

***sustainable development* —** The incorporation of concepts and principles in the development of the built environment that are responsive (not harmful) to the environment, use materials and resources efficiently, and are sensitive to surrounding communities. Sustainable development and design encompass the materials to build and maintain a building, the energy and water needed to operate the building, and the ability to provide a healthy and productive environment for occupants of the building.

***threatened species* —** Any plants or animals likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges and that have been listed as threatened by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures set in the Endangered Species Act and its implementing regulations (50 CFR Part 424). (See *endangered species*.)

***tuff* —** A fine-grained rock composed of ash or other material formed by volcanic explosion or aerial expulsion from a volcanic vent.

***vault (special nuclear material)* —** A penetration-resistant, windowless enclosure that has an intrusion alarm system activated by opening the door and the following: walls, floor, and ceiling substantially constructed of materials that afford forced-penetration resistance at least equivalent to that of 20-centimeter-thick (8-inch-thick) reinforced concrete and a built-in combination-locked steel door, which, for existing structures, is at least 2.54 centimeters (1 inch) thick, exclusive of bolt work and locking devices, and which, for new structures, meets Federal specifications and standards.

***welded tuff* —** A tuff that was sufficiently hot at the time of deposition to weld together (see *tuff*).

***wetland* —** Those areas that are inundated by surface water or groundwater with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas (for example, sloughs, potholes, wet meadows, river overflow areas, mudflats, natural ponds).

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Conceptual Drawing CMRR Facility

Availability of the
Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)

To submit questions regarding this CMRR-NF SEIS, or to request a copy, please contact:

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Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Volume 1
Chapters 1 through 10
Appendices A through D

Conceptual Drawing CMRR Facility

COVER SHEET

Responsible Agency: U.S. Department of Energy (DOE)
National Nuclear Security Administration (NNSA)

Title: *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1)

Location: Los Alamos, New Mexico

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***Abstract*:** NNSA, a semiautonomous agency within DOE, proposes to complete the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory (LANL) by constructing the nuclear facility portion (CMRR-NF) of the CMRR Project to provide the analytical chemistry and materials characterization capabilities currently or previously performed in the existing Chemistry and Metallurgy Research (CMR) Building. This *CMRR-NF SEIS* examines the potential environmental impacts associated with NNSA's proposed action.

The existing CMR Building, most of which was constructed in the early 1950s, has housed most of the analytical chemistry and materials characterization capabilities at LANL. Other capabilities at the CMR Building include actinide processing and waste characterization that support a variety of NNSA and DOE nuclear materials management programs. In 1992, DOE initiated planning and implementation of CMR Building upgrades to address specific safety, reliability, consolidation, and security and safeguards issues. Later, in 1997 and 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Building. Because of these issues, DOE determined at that time that the extensive upgrades originally planned would be time-consuming and of only marginal effectiveness. As a result, DOE decided to perform only the upgrades necessary to ensure the continued safe and reliable short-term operation of the CMR Building and to seek an alternative path for long-term reliability. Operational, safety, and seismic issues at the CMR Building also prompted NNSA to cease performing certain activities and to reduce the amounts of special nuclear material allowed in the CMR Building.

NNSA completed the *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* in 2003. In 2004, NNSA issued a Record of Decision (ROD) to construct a two-building replacement facility in LANL Technical Area 55 (TA-55), with one building providing administrative space and

support functions and the other building providing secure laboratory space for nuclear research and analytical support activities (a nuclear facility). The first building, the Radiological Laboratory/Utility/Office Building (RLUOB), has been constructed and is being outfitted with equipment and furniture. Enhanced safety requirements and updated seismic information have caused NNSA to re-evaluate the design concept of the second building, the CMRR-NF. The proposed Modified CMRR-NF design concept would result in a more structurally sound building.

The proposed action is to complete the CMRR Project by constructing the CMRR-NF to provide the needed nuclear facility capabilities. The Preferred Alternative is to construct a new CMRR-NF in TA-55, in accordance with the Modified CMRR-NF design concept. Construction options for the Modified CMRR-NF Alternative include a Deep Excavation Option, in which a geologic layer of poorly welded tuff would be removed and replaced with low-slump concrete, and a Shallow Excavation Option, in which the foundation would be constructed in a geologic layer above the poorly welded tuff layer. As envisioned in the 2003 *CMRR EIS*, tunnels would be constructed to connect the CMRR-NF to the TA-55 Plutonium Facility and RLUOB. The No Action Alternative would be to construct the new CMRR-NF as envisioned in the 2004 ROD. Another alternative would be to continue using the existing CMR Building, implementing necessary maintenance and component replacements to ensure its continued safe operation. This *CMRR-NF SEIS* evaluates the potential direct, indirect, and cumulative environmental impacts associated with the alternatives analyzed. This *CMRR-NF SEIS* also presents an analysis of the impacts associated with disposition of all or portions of the existing CMR Building and a new CMRR-NF at the end of their useful lives.

Public Comments: In preparing this *Final CMRR-NF SEIS*, NNSA considered comments received during the scoping period (October 1 through November 16, 2010) and during the public comment period on the *Draft CMRR-NF SEIS* (April 29 through June 28, 2011) and late comments received after the close of the public comment period on the *Draft CMRR-NF SEIS*. Public hearings on the *Draft CMRR-NF SEIS* were held in Albuquerque, Los Alamos, Española, and Santa Fe, New Mexico. Comments on the *Draft CMRR-NF SEIS* were requested during a period of 60 days following publication of the U.S. Environmental Protection Agency's (EPA's) Notice of Availability in the *Federal Register*. NNSA considered every comment received at the public hearings or by U.S. mail, e-mail, or by toll-free phone or fax lines. All comments, including late comments received through July 31, 2011, were considered during preparation of this *Final CMRR-NF SEIS*.

This *Final CMRR-NF SEIS* contains revisions and new information based in part on comments received on the draft. Vertical change bars in the margins indicate the locations of these revisions and new information. Volume 2 contains the comments received on the *Draft CMRR-NF SEIS* and NNSA's responses to the comments. NNSA will use the analysis presented in this *Final CMRR-NF SEIS*, as well as other information, in preparing a ROD regarding the construction of the CMRR-NF. NNSA will issue the ROD no sooner than 30 days after EPA publishes a Notice of Availability of this *Final CMRR-NF SEIS* in the *Federal Register*.

OVERVIEW

The National Nuclear Security Administration (NNSA) is a semiautonomous agency within the U.S. Department of Energy (DOE). NNSA is responsible for the management and security of the Nation's nuclear weapons, nuclear nonproliferation programs, and naval reactor programs. NNSA is also responsible for administration of Los Alamos National Laboratory (LANL).

Since the early 1950s, DOE has conducted analytical chemistry and materials characterization work in the Chemistry and Metallurgy Research (CMR) Building at LANL. The CMR Building supports various national security missions, including nuclear nonproliferation programs; the manufacturing, development, and surveillance of pits (the fissile core of a nuclear warhead); life extension programs; dismantlement efforts; waste management; material recycle and recovery; and research. The CMR Building is a Hazard Category 2 nuclear facility with significant nuclear material and nuclear operations and has a potential for significant consequences.

The CMR Building is almost 60 years old and near the end of its useful life. Many of its utility systems and structural components are aged, outmoded, and deteriorated. In the 1990s, geological studies identified a seismic fault trace located beneath two of the wings of the CMR Building, which raised concerns about the structural integrity of the facility. Over the long term, NNSA cannot continue to operate the mission-critical CMR support capabilities in the existing CMR Building at an acceptable level of risk to worker safety and health. NNSA has already taken steps to minimize the risks associated with continued operations at the CMR Building. To ensure that NNSA can fulfill its national security mission for the next 50 years in a safe, secure, and environmentally sound manner, NNSA proposed in 2002 to construct a CMR replacement facility, known as the Chemistry and Metallurgy Research Building Replacement (CMRR).

NNSA has undertaken extensive environmental review of the CMRR Project; after thoroughly analyzing its potential environmental impacts and considering public comments, NNSA issued a final environmental impact statement (EIS) in November 2003 and a Record of Decision (ROD) in February 2004. The ROD announced that the CMRR would consist of two buildings: a single, aboveground, consolidated, special-nuclear-material-capable, Hazard Category 2 laboratory building (the CMRR-NF), as well as a separate but adjacent administrative office and support building, the Radiological Laboratory/Utility/Office Building (RLUOB). Construction of RLUOB is complete, and radiological operations are scheduled to begin in 2013.

Since issuance of the 2004 ROD, new developments have arisen indicating that changes to the CMRR are appropriate. Specifically, a new site-wide analysis of the geophysical structures that underlie the LANL area was prepared. In light of this new geologic information regarding seismic conditions at the site, NNSA has proposed changes to the design of the CMRR-NF. NNSA has also developed more-detailed information on the various support functions and infrastructure needed for construction, such as concrete batch plants and laydown areas. Even with these changes, the scope of operations remains the same as before (the 2004 ROD), as does the quantity of special nuclear material that can be handled and stored in the CMRR-NF.

Though the changes would affect the structural aspects of the building and not its purpose, NNSA decided to prepare a supplemental EIS (SEIS) to address the ways in which the potential environmental effects of the proposed CMRR-NF have changed since the project was analyzed in the 2003 EIS. Development of an SEIS includes a scoping process, public meetings, and a comment period on a draft SEIS to ensure that the public has a full opportunity to participate in this review. Because NNSA decided in the 2004 ROD to build the CMRR—as a necessary step in maintaining critical analytical chemistry and materials characterization capabilities at LANL—this SEIS is not intended to revisit that decision. Instead, this SEIS supplements the previous analysis by examining the potential environmental impacts related to the proposed change in the CMRR design. So, in addition to the No Action Alternative (to proceed with the CMRR-NF as announced in the 2004 ROD), this SEIS considers two action alternatives: (1) construct a new Modified CMRR-NF that would result in a more structurally sound building (construction options include shallow and deep excavation); and (2) continue using the CMR Building, with minor upgrades and repairs to ensure safety, together with RLUOB.

On March 11, 2011, as the draft SEIS was in its final stages of preparation, the Fukushima Daiichi Nuclear Power Plant in Japan was damaged by a tsunami generated as a result of a magnitude 9.0 earthquake. A number of comments received by NNSA on the draft SEIS expressed concerns regarding the nuclear consequences of a seismic event affecting LANL. In response to these concerns, NNSA revised the final SEIS to include additional information about the seismic environment of the LANL sites being considered in the alternatives analyzed, the potential seismically initiated accidents that might occur at the CMR Building or a CMRR-NF facility, and the critical differences between a nuclear power plant and a nuclear materials research laboratory. NNSA remains committed to improving our understanding of the events affecting the Fukushima Daiichi Nuclear Power Plant and learning from Japan's experience.

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ACRONYMS, ABBREVIATIONS, AND CONVERSION CHARTS

ACRONYMS, ABBREVIATIONS, AND CONVERSION CHARTS

AASHTO	American Association of State Highway and Transportation Officials
AC and MC	analytical chemistry and materials characterization
ACHP	Advisory Council on Historic Preservation
AEA	Atomic Energy Act
AEI	areas of environmental interest
ALARA	as low as reasonably achievable
AOC	Area of Concern
ARF	airborne release fraction
ATSDR	Agency for Toxic Substances and Disease Registry
BLM	Bureau of Land Management
BLS	Bureau of Labor Statistics
CAIRS	Computerized Accident/Incident Reporting System
CD	Critical Decision
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CMR	Chemistry and Metallurgy Research
CMRR	Chemistry and Metallurgy Research Building Replacement
CMRR-NF	Chemistry and Metallurgy Research Building Replacement Nuclear Facility
CRD	Comment Response Document
CWA	Clean Water Act
DART	days away, restricted, or transferred
dB	decibels
dBA	decibels A-weighted
DD&D	decontamination, decommissioning, and demolition
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DR	damage ratio
DSA	Documented Safety Analysis
EA	environmental assessment
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FR	*Federal Register*
FY	fiscal year
g	gravitational acceleration
GHG	greenhouse gases
GTCC	greater-than-Class C
HABS/HAER	Historic American Building Survey/Historic American Engineering Record
HCM	Highway Capacity Manual
HEPA	high-efficiency particulate air filter

HEWTF	High Explosive Wastewater Treatment Facility
HLW	high-level radioactive waste
IPCC	Intergovernmental Panel on Climate Change
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center
LCF	latent cancer fatality
LEED	Leadership in Energy and Environmental Design
LEED-NC	Leadership in Energy and Environmental Design for New Construction and Major Renovations
LLW	low-level radioactive waste
LOS	level of service
LPF	leak path factor
MAR	material at risk
MDA	Material Disposal Area
MEI	maximally exposed individual
MLLW	mixed low-level radioactive waste
MMI	Modified Mercalli Intensity
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NMAC	New Mexico Administrative Code
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Environmental Department
NMSSUP	Nuclear Materials Safeguards and Security Upgrades Project
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRC	U.S. Nuclear Regulatory Commission
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
PC	Performance Category
PCB	polychlorinated biphenyl
PDSA	preliminary documented safety analysis
PF-4	Plutonium Facility in TA-55
PHV	peak hourly volume
PIDADS	perimeter intrusion, detection, assessment and delay system
P.L.	Public Law
PM_n	particulate matter less than or equal to *n* microns in aerodynamic diameter
POVs	privately owned vehicles
ppm	parts per million
PRSs	potential release sites
PSHA	Probabilistic Seismic Hazard Analysis
RCNM	Roadway Construction Noise Model

RCRA	Resource Conservation and Recovery Act
RF	respirable fraction
RLUOB	Radiological Laboratory/Utility/Office Building
RLWTF	Radioactive Liquid Waste Treatment Facility
RMP	Resource Management Plan
ROD	Record of Decision
ROI	Region of Influence
RSL	Remote Sensing Laboratory
SA	supplement analysis
SC	Safety Class
SEIS	supplemental environmental impact statement
SERF	Sanitary Effluent Reclamation Facility
SWMU	solid waste management unit
SNM	special nuclear material
SR	New Mexico State Route
SSC	structure, system, and component
SWEIS	site-wide environmental impact statement
SWPPP	Storm Water Pollution Prevention Plan
SWWS	Sanitary Wastewater Systems Plant
TA	technical area
TRAGIS	Transportation Routing analysis Geographic Information System
TRCs	total recordable cases
TRU	transuranic waste
TSD	treatment storage and disposal
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
VAP	Vehicle Access Portals
VMT	vehicle miles traveled
WETF	Weapons Engineering Test Facility
WIPP	Waste Isolation Pilot Plant
°C	degrees Centigrade
°F	degrees Fahrenheit

CONVERSIONS

METRIC TO ENGLISH			ENGLISH TO METRIC		
Multiply	**by**	**To get**	**Multiply**	**by**	**To get**
Area					
Square meters	10.764	Square feet	Square feet	0.092903	Square meters
Square kilometers	247.1	Acres	Acres	0.0040469	Square kilometers
Square kilometers	0.3861	Square miles	Square miles	2.59	Square kilometers
Hectares	2.471	Acres	Acres	0.40469	Hectares
Concentration					
Kilograms/square meter	0.16667	Tons/acre	Tons/acre	0.5999	Kilograms/square meter
Milligrams/liter	1 [a]	Parts per million	Parts per million	1 [a]	Milligrams/liter
Micrograms/liter	1 [a]	Parts per billion	Parts per billion	1 [a]	Micrograms/liter
Micrograms/cubic meter	1 [a]	Parts per trillion	Parts per trillion	1 [a]	Micrograms/cubic meter
Density					
Grams/cubic centimeter	62.428	Pounds/cubic feet	Pounds/cubic feet	0.016018	Grams/cubic centimeter
Grams/cubic meter	0.0000624	Pounds/cubic feet	Pounds/cubic feet	16,025.6	Grams/cubic meter
Length					
Centimeters	0.3937	Inches	Inches	2.54	Centimeters
Meters	3.2808	Feet	Feet	0.3048	Meters
Kilometers	0.62137	Miles	Miles	1.6093	Kilometers
Temperature					
Absolute					
Degrees Celsius + 17.78	1.8	Degrees Fahrenheit	Degrees Fahrenheit - 32	0.55556	Degrees Celsius
Relative					
Degrees Celsius	1.8	Degrees Fahrenheit	Degrees Fahrenheit	0.55556	Degrees Celsius
Velocity/Rate					
Cubic meters/second	2118.9	Cubic feet/minute	Cubic feet/minute	0.00047195	Cubic meters/second
Grams/second	7.9366	Pounds/hour	Pounds/hour	0.126	Grams/second
Meters/second	2.237	Miles/hour	Miles/hour	0.44704	Meters/second
Volume					
Liters	0.26418	Gallons	Gallons	3.78533	Liters
Liters	0.035316	Cubic feet	Cubic feet	28.316	Liters
Liters	0.001308	Cubic yards	Cubic yards	764.54	Liters
Cubic meters	264.17	Gallons	Gallons	0.0037854	Cubic meters
Cubic meters	35.314	Cubic feet	Cubic feet	0.028317	Cubic meters
Cubic meters	1.3079	Cubic yards	Cubic yards	0.76456	Cubic meters
Cubic meters	0.0008107	Acre-feet	Acre-feet	1233.49	Cubic meters
Weight/Mass					
Grams	0.035274	Ounces	Ounces	28.35	Grams
Kilograms	2.2046	Pounds	Pounds	0.45359	Kilograms
Kilograms	0.0011023	Tons (short)	Tons (short)	907.18	Kilograms
Metric tons	1.1023	Tons (short)	Tons (short)	0.90718	Metric tons
ENGLISH TO ENGLISH					
Acre-feet	325,850.7	Gallons	Gallons	0.000003046	Acre-feet
Acres	43,560	Square feet	Square feet	0.000022957	Acres
Square miles	640	Acres	Acres	0.0015625	Square miles

[a] **This conversion is only valid for concentrations of contaminants (or other materials) in water.**

METRIC PREFIXES

Prefix	Symbol	Multiplication factor
exa-	E	1,000,000,000,000,000,000 = 10^{18}
peta-	P	1,000,000,000,000,000 = 10^{15}
tera-	T	1,000,000,000,000 = 10^{12}
giga-	G	1,000,000,000 = 10^{9}
mega-	M	1,000,000 = 10^{6}
kilo-	k	1,000 = 10^{3}
deca-	D	10 = 10^{1}
deci-	d	0.1 = 10^{-1}
centi-	c	0.01 = 10^{-2}
milli-	m	0.001 = 10^{-3}
micro-	μ	0.000 001 = 10^{-6}
nano-	n	0.000 000 001 = 10^{-9}
pico-	p	0.000 000 000 001 = 10^{-12}
femto-	f	0.000 000 000 000 001 = 10^{-15}
atto-	a	0.000 000 000 000 000 001 = 10^{-18}

CHAPTER 1
INTRODUCTION AND PURPOSE AND NEED FOR AGENCY ACTION

1 INTRODUCTION AND PURPOSE AND NEED FOR AGENCY ACTION

Chapter 1 presents an overview of the U.S. Department of Energy/National Nuclear Security Administration *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1). This chapter briefly relates the progression of project planning and National Environmental Policy Act environmental impact reviews, provides background information, and discusses the purpose and need for action and the alternatives analyzed in this *CMRR-NF SEIS* for constructing and operating the Nuclear Facility portion of the Chemistry and Metallurgy Research Building Replacement Project. The chapter further summarizes the associated environmental impact reviews, discusses decisions to be made now, and describes public participation actions conducted for this *CMRR-NF SEIS*.

1.1 Introduction

This *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* (DOE/EIS-0350-S1) has been prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 *United States Code* [U.S.C.] 4321 et seq.), as well as Council on Environmental Quality (CEQ) regulations and U.S. Department of Energy (DOE) NEPA implementing procedures codified in Title 40 of the *Code of Federal Regulations* (CFR) Parts 1500–1508 and 10 CFR Part 1021, respectively. CEQ and DOE NEPA regulations and implementing procedures require preparation of a supplemental environmental impact statement (SEIS) if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. An SEIS may also be prepared to further the purposes of NEPA. The following paragraphs summarize the NEPA analyses applicable to the Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) that the National Nuclear Security Administration (NNSA)[1] has completed over the last 8 years, as well as the changes to the CMRR-NF proposal that are the subject of this *CMRR-NF SEIS*.

Five alternatives were analyzed in the November 2003 *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS-0350):

- Alternative 1 (the Preferred Alternative): Construct a new Chemistry and Metallurgy Research Building Replacement (CMRR) Facility at Technical Area 55 (TA-55).
- Alternative 2 (Greenfield Site Alternative): Construct a new CMRR Facility at TA-6.
- Alternative 3 (Hybrid Alternative at TA-55): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-55 and continue use of the Chemistry and Metallurgy Research (CMR) Building.
- Alternative 4 (Hybrid Alternative at TA-6): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-6 and continue use of the CMR Building.
- No Action Alternative: Continue use of existing CMR Building – no new building construction.

The Preferred Alternative (Alternative 1) was selected for implementation in a 2004 Record of Decision (69 *Federal Register* 6967).

[1] *For more information on NNSA, a semiautonomous agency within DOE, see the 1999 National Nuclear Security Administration Act (Title 32 of the Defense Authorization Act for Fiscal Year 2000 [Public Law (P.L.) 106-65]).*

Nuclear Facilities Hazards Classification (U.S. Department of Energy [DOE] Standard 1027)

Hazard Category 1: Hazard analysis shows the potential for significant offsite consequences.

Hazard Category 2: Hazard analysis shows the potential for significant onsite consequences.

Hazard Category 3: Hazard analysis shows the potential for only significant localized consequences.

Special Nuclear Material (SNM) Safeguards and Security (DOE Order 474.2)

DOE uses a cost-effective, graded approach to providing SNM safeguards and security. Quantities of SNM stored at each DOE site are categorized as Security Category I, II, III, or IV, with the greatest quantities included under Security Category I and lesser quantities included in descending order under Security Categories II through IV. Types and compositions of SNM are further categorized by their "attractiveness" by using an alphabetical system. Materials that are most attractive for conversion into nuclear explosive devices are identified by the letter "A." Less-attractive materials are designated progressively by the letters "B" through "E."

In November 2003, NNSA issued the *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* (DOE/EIS-0350), which was followed by the issuance of a Record of Decision (ROD) in February 2004 (69 *Federal Register* [FR] 6967) (DOE 2004a). In that 2004 ROD, NNSA stated its decision to implement the preferred alternative, Alternative 1, the construction and operation of a new Chemistry and Metallurgy Research Building Replacement (CMRR) Facility within Technical Area 55 (TA-55) at Los Alamos National Laboratory (LANL). The new CMRR Facility would include two buildings: one for administrative and support functions and one for Hazard Category 2 and 3 special nuclear material[2] (SNM) laboratory operations. Both buildings would be constructed in aboveground locations (under *CMRR EIS* Construction Option 3). The existing Chemistry and Metallurgy Research (CMR) Building located within TA-3 at LANL would undergo decontamination, decommissioning, and demolition (DD&D) in its entirety (under *CMRR EIS* Disposition Option 3). The preferred alternative included the construction of the new CMRR Facility and the movement of operations from the existing CMR Building into the new CMRR Facility, with operations to continue in the new facility over the next 50 years.

As described in the *CMRR EIS*, the administrative and support building would provide office space in addition to laboratory space used for such activities as glovebox mockup, process testing, chemical experimentation, training, and general research and development. The laboratory areas within it would be allowed to contain only very small amounts of nuclear materials such that it would be designated a radiological facility.[3] All nuclear analytical chemistry (AC) and materials characterization (MC) operations would be housed in one Hazard Category 2 nuclear laboratory building. The Hazard Category 2 building would be constructed with one floor below ground, containing the Hazard Category 2 operations, and one floor above ground, containing Hazard Category 3 operations. Each building would have multiple stories and a total of about 200,000 square feet (19,000 square meters) of floor space. An underground tunnel would link the buildings. In addition, another underground tunnel would be constructed to connect the existing TA-55 Plutonium Facility with the Hazard Category 2 building; this tunnel would also contain a vault spur for the CMRR Facility long-term SNM storage requirements. NNSA would operate both the CMR Building and the CMRR Facility for an overlapping 2- to 4-year period because most AC and MC operations require transitioning from the old CMR Building to the new CMRR Facility buildings.

Since 2004, project personnel have engaged in an iterative planning process for all CMRR Project activities and materials needed to implement construction of the two-building CMRR Facility at TA-55. The administrative and support building, now known as the Radiological Laboratory/Utility/Office

[2] *SNM includes plutonium, uranium enriched in the isotope 233 or the isotope 235, and any other material that the U.S. Nuclear Regulatory Commission determines to be SNM.*
[3] *Facilities that handle less than Hazard Category 3 threshold quantities, but require identification of "radiological areas," are designated as radiological facilities.*

Building (RLUOB), was fully planned and constructed over the past 6 years, from 2004 through 2010. NNSA prepared the *Supplement Analysis, Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory, Los Alamos, New Mexico: Changes to the Location of the CMRR Facility Components (CMRR SA)* (DOE/EIS-0350-SA-01) (DOE 2005a) in 2005 to evaluate a proposal to place RLUOB at a location other than the one analyzed specifically in the 2003 *CMRR EIS*. In the *CMRR SA*, NNSA determined that the *CMRR EIS* impacts analysis encompassed this proposal and that an SEIS was not required. However, the RLUOB site location was later changed back to the location originally considered in the *CMRR EIS*, and the building site considered in the *CMRR SA* was used, as proposed and analyzed in the *CMRR EIS*, for the construction of a permanent paved parking area, with temporary construction trailers and other support functions being located within this parking area. RLUOB is now being outfitted and equipped, and interior finishing is under way. Occupancy of RLUOB is currently estimated to begin in 2011, with radiological laboratory operations commencing in about 2013.

Chemistry and Metallurgy Research Building Replacement Project Terminology

Chemistry and Metallurgy Research Building (CMR Building) – refers to the existing building in Technical Area (TA-3) that was built primarily in the 1950s.

Chemistry and Metallurgy Research Building Replacement Facility (CMRR Facility) – refers to the entire facility conceived to replace the CMR Building; it comprises a nuclear facility and a support facility (see below).

Radiological Laboratory/Utility/Office Building (RLUOB) – refers to the administrative and support facility component of the CMRR Facility. RLUOB has been constructed in TA-55.

Chemistry and Metallurgy Research Building Replacement Project Nuclear Facility (CMRR-NF) – refers to the nuclear facility component or portion of the CMRR Facility. Construction of the CMRR-NF in TA-55 adjacent to RLUOB is the subject of this supplemental environmental impact statement.

Project planning and design for the CMRR-NF was initiated in 2004, but has progressed along a slower timeline than projected in the *CMRR EIS*. In early 2005, NNSA initiated a site-wide environmental impact statement (SWEIS) for the continued operation of LANL, the *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (2008 *LANL SWEIS*) (DOE/EIS-0380) (DOE 2008a); a year later, in October 2006, NNSA initiated preparation of the *Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS)* (DOE 2008c) to consider the potential environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more efficient enterprise that could respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile (DOE/EIS-0236-S4). While these two environmental impact statements (EISs) were being prepared, CMRR-NF planning was deliberately limited to preliminary planning and design work, and NNSA deferred implementing its decision to construct the CMRR-NF at LANL so as not to limit the range of reasonable alternatives.

Both the *LANL SWEIS* and the *Complex Transformation SPEIS* were issued in 2008. Among the various decisions supported by the analysis contained in the *Complex Transformation SPEIS* was the programmatic decision to retain manufacturing and research and development capabilities involving plutonium at LANL and, in partial support of those activities, to construct and operate the CMRR-NF at LANL in accordance with the 2004 *CMRR EIS* ROD. These decisions were issued in a December 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). Among the various decisions supported by the analysis contained in the 2008 *LANL SWEIS* were decisions regarding the programmatic level of operations at LANL facilities (including the CMRR Facility) for at least the next 5 years and project-specific decisions for individual projects at LANL, including those at TA-55 and within surrounding and nearby TAs along the Pajarito Road corridor. These decisions were issued in a September 2008 *LANL SWEIS* ROD (73 FR 55833) and a June 2009 *LANL SWEIS* ROD (74 FR 33232). Congressional funding has been appropriated to proceed with CMRR-NF planning and design (DOE 2011e).

Over the past 8 years, the CMRR-NF planning process has identified several design considerations that were not envisioned in 2003, when the *CMRR EIS* was prepared and issued. Several ancillary and support requirements have also been identified in addition to those identified and analyzed in the *CMRR EIS*. Two support actions—installation of an electric power substation in TA-50 and removal and transport of about 150,000 cubic yards (115,000 cubic meters) of geologic material per year from the building site and other LANL construction projects to other LANL locations for storage—were identified early enough to be included in the 2008 *LANL SWEIS* environmental impact analyses and the September 2008 *LANL SWEIS* ROD. Both the 2008 and 2009 *LANL SWEIS* RODs identified NNSA's selection of the No Action Alternative for the baseline level of overall operations for the various LANL facilities, which included the implementation of actions selected in the 2004 *CMRR EIS* ROD. These actions included construction and operation of the two-building CMRR Facility at TA-55, transfer of operations from the old CMR Building and its ultimate demolition, and the two support actions mentioned above. This *CMRR-NF SEIS* addresses the CMRR-NF alternatives, as well as updated information on the ancillary and support activities, that have developed since the *CMRR EIS* and *LANL SWEIS* were published.

NNSA decided in 2008, and again in 2009, to continue to defer certain programmatic decisions until after the release of the Administration's next *Nuclear Posture Review Report*, which was issued in April 2010 (DoD 2010). To date, no further related programmatic decisions have been announced by NNSA since this report was released, although additional decisions may be announced later through the NEPA compliance process.

1.2 Background

LANL was originally established in 1943 as "Project Y" of the Manhattan Project in northern New Mexico, within what is now the Incorporated County of Los Alamos (see **Figure 1–1**). Project Y had a single national defense mission—to build the world's first nuclear weapon. After World War II ended, Project Y was designated a permanent research and development laboratory, the Los Alamos Scientific Laboratory. It was renamed LANL in the 1980s, when its mission was expanded from defense and related research and development to incorporate a wide variety of new assignments in support of Federal Government and private sector programs. LANL is now a multidisciplinary, multipurpose institution primarily engaged in theoretical and experimental research and development.

LANL occupies about 40 square miles (104 square kilometers) of land on the eastern flank of the Jemez Mountains along the area known as the Pajarito Plateau. The terrain in the LANL area consists of mesa tops and canyon bottoms that trend in a west-to-east manner, with the canyons intersecting the Rio Grande to the east of LANL. Elevations at LANL range from about 7,800 feet (2,400 meters) at the highest point on the western side to about 6,200 feet (1,900 meters) at the lowest point along the eastern side, above the Rio Grande. The two primary residential areas within the county are the Los Alamos townsite and the White Rock residential development (see Figure 1–1). Together, these two residential areas are home to about 18,400 people. About 13,000 people work at LANL, only about half of whom reside within Los Alamos County. LANL operations occur within numerous facilities located over 47 designated technical areas within the LANL boundaries and at other leased properties situated near LANL. The 47 contiguous LANL technical areas (which are not numbered sequentially) have been established so that they segregate the entire LANL site (see **Figure 1–2**). Most of LANL is undeveloped forested land that provides a buffer for security and safety, as well as expansion opportunities for future use. About 46 percent of the square footage of LANL facilities is considered laboratory or production space; the rest is considered administrative, storage, service, and miscellaneous space (LANL 2011a:LANL Site, 006).

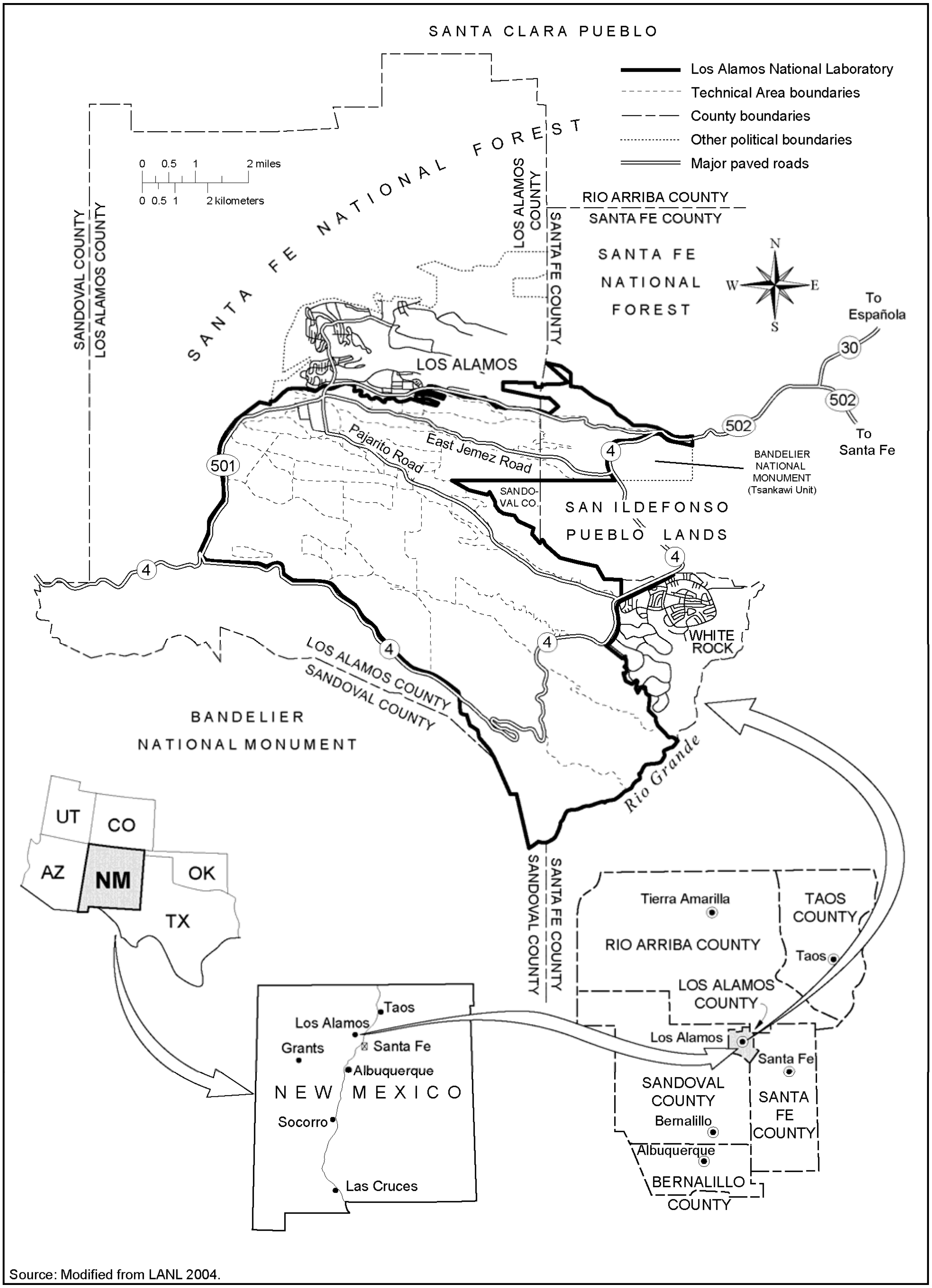

Figure 1–1 Location of Los Alamos National Laboratory

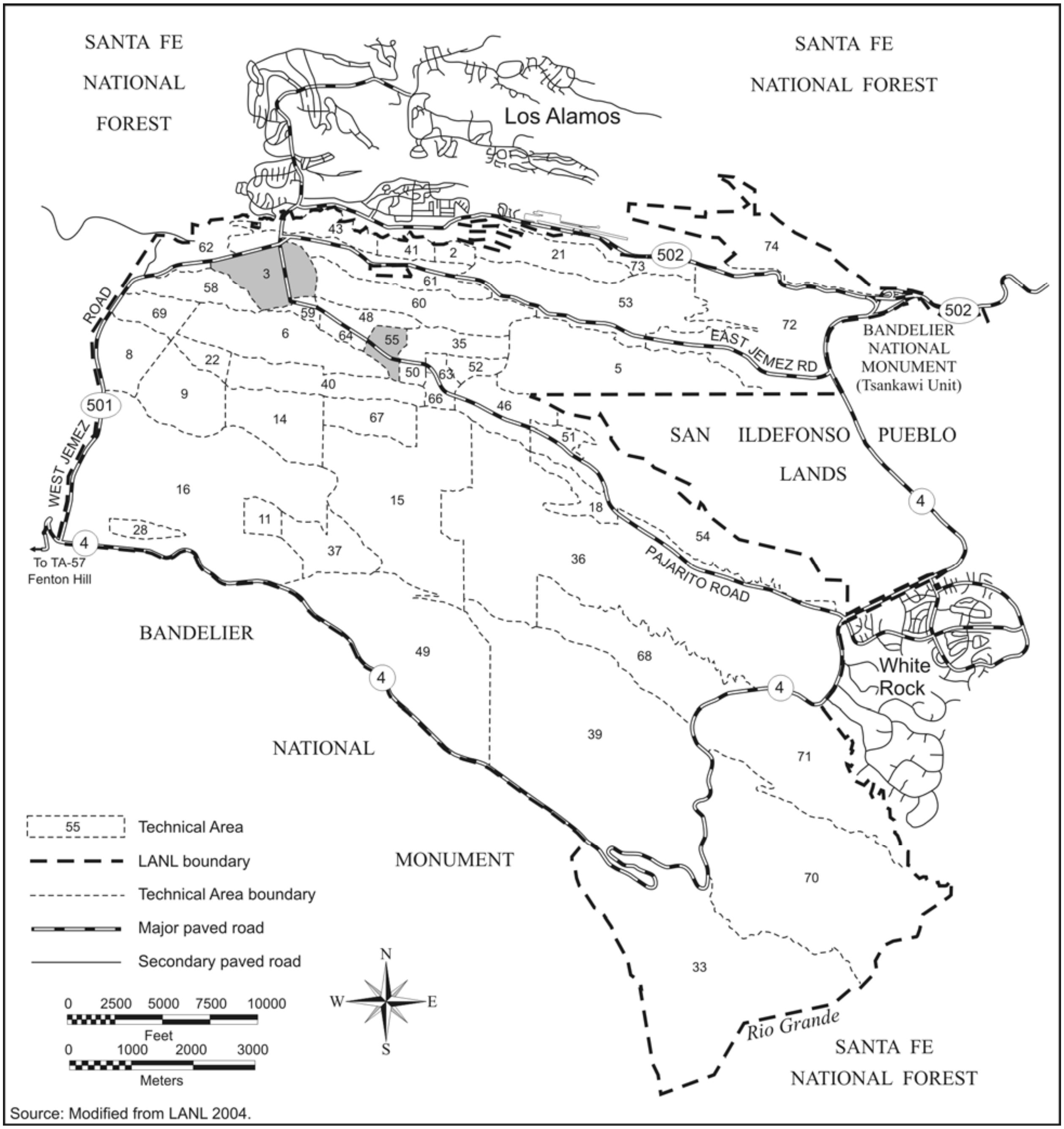

Figure 1–2 Identification and Location of Los Alamos National Laboratory Technical Areas

Since its creation in 2000, NNSA has had the following congressionally assigned missions: (1) to enhance U.S. national security through the military application of nuclear energy; (2) to maintain and enhance the safety, reliability, and performance of the U.S. nuclear weapons stockpile to meet national security requirements, including the ability to design, produce, and test; (3) to provide the U.S. Navy with safe, militarily effective nuclear propulsion plants and to ensure the safe and reliable operation of these plants; (4) to promote international nuclear safety and nonproliferation efforts; (5) to reduce the global danger from weapons of mass destruction; and (6) to support U.S. leadership in science and technology (50 U.S.C. 2401(b)). Congress identified LANL as one of three national security laboratories to be administered by NNSA for DOE. As NNSA's mission is a subset of DOE's original mission assignment, the work performed at LANL in support of NNSA has remained unchanged in character from that performed for DOE prior to NNSA's creation. Specific LANL assignments for the foreseeable future include (1) production of weapons components, (2) assessment and certification of the nuclear weapons stockpile, (3) surveillance of weapons components and weapon systems, (4) assurance of the safe and secure storage of strategic materials, and (5) management of excess plutonium inventories. NNSA mission objectives at LANL include providing a wide range of scientific and technological capabilities that support nuclear materials handling, processing, and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities.

NNSA and DOE generally assign mission element work to LANL[4] based on the facilities and expertise of the staff located there, as well as other factors. Theoretical research (including analysis, mathematical modeling, and high-performance computing), experimental science and engineering, advanced and nuclear materials research, and development of applications (including weapons components testing, fabrication, stockpile assurance, replacement, surveillance, and maintenance) are performed at LANL using the facilities and staff there. These capabilities allow activities—such as high-explosives processing, chemical research, nuclear physics research, materials science research, systems analysis and engineering, human genome mapping, and research and development of biotechnology applications and remote sensing technologies—to be performed that can be applied to resource exploration and environmental surveillance activities conducted at LANL.

In the mid-1990s, DOE, in response to direction from the President and Congress, developed the Stockpile Stewardship and Management Program (now the Stockpile Stewardship Program) to provide a single, highly integrated technical program for maintaining the continued safety and reliability of the nuclear weapons stockpile. Stockpile stewardship comprises activities associated with research, design, and development of nuclear weapons; maintaining the knowledge base and capabilities needed to support testing of nuclear weapons; and the assessment and certification of their safety and reliability. Stockpile management includes operations associated with producing, maintaining, refurbishing, surveilling, and dismantling the nuclear weapons stockpile. Mission-essential work conducted at LANL provides science, research and development, and production support to these NNSA missions, with a special focus on national security.

A particularly important facility at LANL is the nearly 60-year-old CMR Building (Building 3-29) located in TA-3 (see **Figure 1–3**), which has unique capabilities for performing AC, MC and actinide[5] research and development related to SNM. Actinide science-related mission work at LANL ranges from the plutonium-238 heat source program conducted for the National Aeronautics and Space Administration to arms control technology development. CMR Building operations provide AC and MC in support of manufacturing, development, and surveillance of nuclear weapons pits[6] and nuclear nonproliferation programs with critical national security missions. Pit production mission support work was first assigned to LANL in 1996 in the ROD for the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (61 FR 68014). DOE later determined how and where it would conduct that mission support work through the 1999 *LANL SWEIS* (DOE 1999a) and its associated ROD (64 FR 50797). Since 2000, pit production at LANL has been established within the Plutonium Facility Complex at TA-55 (see Figure 1–3), and several certified pits[7] have been produced over the past 5 years in that facility. Pit production does not take place at the CMR Building and would not take place in any CMRR facility.

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[4] *Additional information regarding DOE and NNSA work assignments at LANL is presented in both the 1999 and 2008* LANL SWEISs*. These documents and other related documents can be found on the Internet at http://nepa.energy.gov/ and http://www.lanl.gov/.*

[5] *"Actinide" refers to any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium), including uranium and plutonium. All members of this group are radioactive.*

[6] *A pit is the central core of a primary assembly in a nuclear weapon typically composed of plutonium-239 and/or highly enriched uranium and other materials.*

[7] *A certified pit meets the specifications for use in the U.S. nuclear stockpile.*

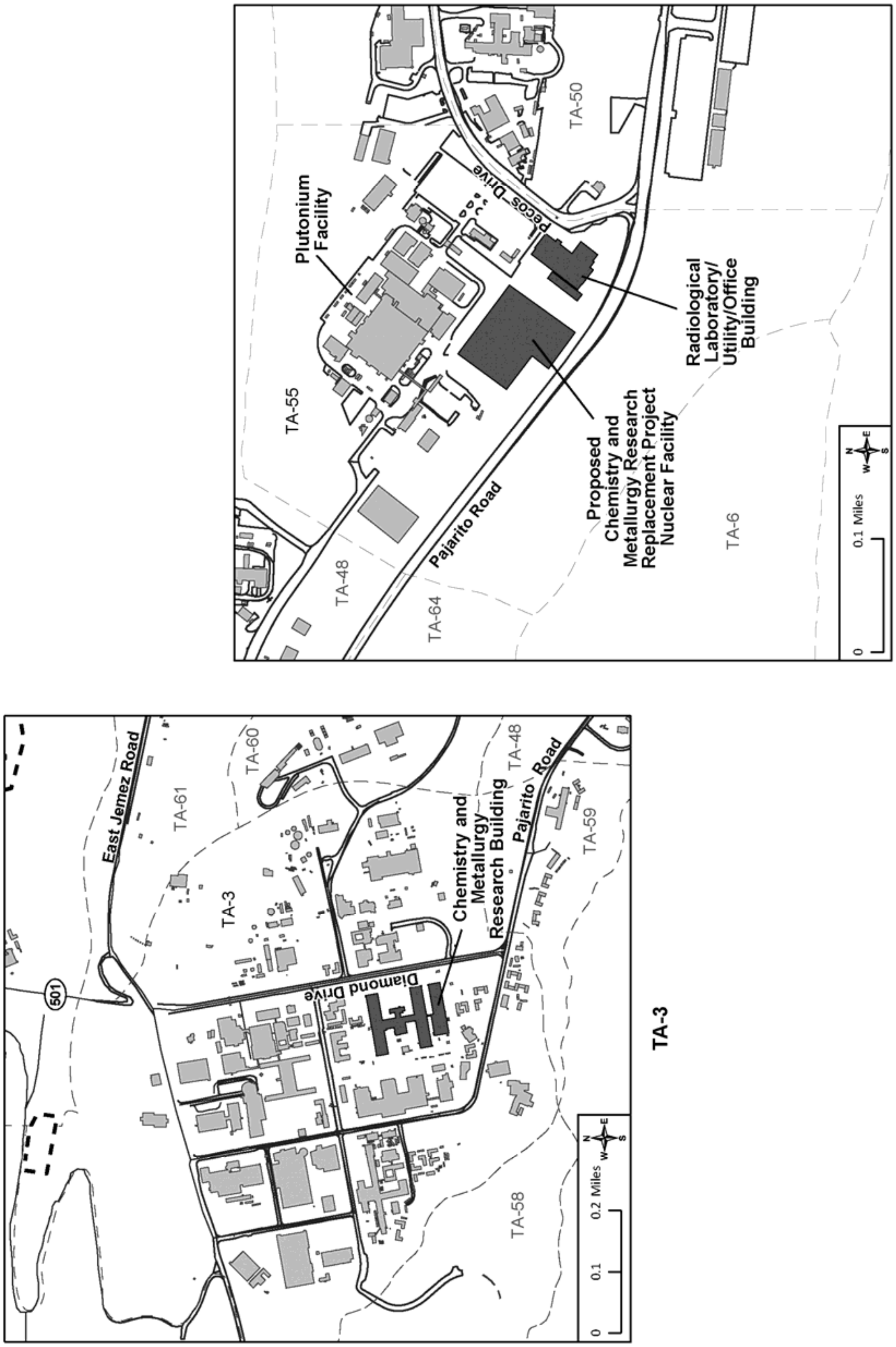

Figure 1–3 Location of Facilities in Technical Areas 3 and 55

Construction of the CMR Building was initiated in 1949 and completed in 1952. The CMR Building is a three-story building composed of a central corridor and eight wings, with over 550,000 square feet (51,000 square meters) of working area, including laboratory spaces and administrative and utility areas. The CMR Building is currently designated as a Hazard Category 2, Security Category III nuclear facility. Its main function is to house research and development capabilities involving AC, MC, and metallurgic studies on actinides and other metals. AC and MC services support virtually all nuclear programs at LANL. These activities have been conducted almost continuously in the CMR Building since it became operational in 1952; however, with the closure of Wing 2, the broad spectrum of MC work once performed at the CMR Building has been relocated to other wings of the CMR Building or has been suspended.

The CMR Building was initially designed and constructed to comply with the building codes in effect during the late 1940s and early 1950s. In the intervening years, a series of upgrades have been performed to address changing building and safety requirements. In 1992, DOE initiated planning and implementation of additional CMR Building upgrades to address specific safety, reliability, consolidation, and safeguards and security issues with the intent to extend the useful life of the CMR Building for an additional 20 to 30 years. Many of the utility systems and structural components were recognized then as being aged, outmoded, and generally deteriorating. Beginning in about 1997 and continuing to the present, a series of operational, safety, and seismic issues have surfaced. A 1998 seismic study identified two small parallel faults beneath the northernmost portion of the CMR Building (LANL 1998). No other faults were detected. The presence of these faults gave rise to operational and safety concerns related to the structural integrity of the building in the event of seismic activity along this portion of the Pajarito fault system. These issues have partially been addressed by administratively restricting the amount of material stored within the building and in use at any given time, completely removing operations from three wings of the building, and generally limiting operations in the other three laboratory wings that remain functional. Upgrades to the building that were necessary at the time have since been undertaken to allow the building to continue functioning while ensuring safe and reliable operations. The planned closeout of nuclear laboratory operations within the CMR Building was previously estimated to occur in or around the year 2010; however, with the limited upgrades on selective facility systems and operational restrictions implemented, NNSA plans to continue to operate the nuclear laboratories in the building until the building can no longer operate safely, a replacement facility is available, or NNSA makes other operational decisions.

Since the *CMRR EIS* ROD was issued in February 2004, advances have been made in the understanding of seismic conditions in the Los Alamos area and at TA-3 and TA-55 in particular. These new data have resulted in changes necessary to meet the performance standard for Performance Category 3 (PC-3)[8] buildings, including the existing CMR Building and the proposed CMRR-NF, from being able to survive a design-basis earthquake with a peak horizontal ground acceleration of about 0.31 *g* [gravitational acceleration] and a peak vertical ground acceleration of 0.27 *g*.[9] Based on the new data, the design-basis earthquake for TA-3 would have a peak horizontal ground acceleration of 0.52 *g* and a peak vertical ground acceleration of 0.6 *g* (LANL 2007a); the design-basis earthquake for TA-55 would have a peak horizontal ground acceleration of 0.47 *g* and a peak vertical ground acceleration of 0.51 *g*

[8] Each structure, system, and component in a DOE facility is assigned to one of five performance categories depending upon its safety importance. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002c).

[9] The return interval for the obsolete peak horizontal and vertical ground accelerations of 0.31g and 0.27 g, respectively, was 2,000 years; the return interval for the current design-basis earthquake with peak horizontal and vertical ground accelerations of 0.47 g and 0.51 g, respectively, is 2,500 years.

(LANL 2009b). This change in peak ground accelerations is significant and has resulted in significant changes in the design of the proposed CMRR-NF.

The new peak ground acceleration estimates for TA-55 and TA-3 are the result of ongoing seismic studies of LANL and the surrounding area, as discussed the Probabilistic Seismic Hazard Analysis published in 2007 and updated in 2009 (LANL 2007a, 2009b). These new data increased requirements for seismic performance for LANL plutonium facilities and have caused substantial reexamination of the safety of both the existing CMR Building and the proposed CMRR-NF design. The Defense Nuclear Facilities Safety Board (DNFSB), an independent oversight agency, and NNSA have taken major interest in this enhanced seismic understanding of the LANL area and the implications in terms of safe operations at the CMR Building and the proposed CMRR-NF. It was concluded that the initial CMRR-NF design evaluated in the *CMRR EIS* would not provide the desired safety margins to survive the current design-basis earthquake (with a peak horizontal ground acceleration of 0.47 *g* and a peak vertical ground acceleration of 0. 51 *g*), and that substantial design changes were needed. In addition, it was further concluded that activities involving nuclear materials and the amount of nuclear material stored in the existing CMR Building needed to be significantly reduced to reduce the risks associated with continuing to operate this building in the event of such an earthquake. Both NNSA and DNFSB concurred in these conclusions. As a result, NNSA has significantly modified the design of the CMRR-NF such that the Modified CMRR-NF would provide the needed safety functions even in the event of a design-basis earthquake. Activities at the CMR Building have been significantly reduced since the *CMRR EIS* was published and are expected to continue to be reduced over time as the safety of this building continues to be evaluated.

Additional analysis has been done regarding the Deep and Shallow Construction Options associated with the Modified CMRR-NF Alternative. The original building elevation (as defined by the bottom of the basemat) considered for the CMRR-NF was located sufficiently shallow, such that extensive excavation below the building basemat would not be required and would not extend into the poorly welded tuff layer. This design held through the completion of the conceptual and preliminary design phases of the project.

When the probabilistic seismic hazards analysis was prepared in 2007, the design was changed to increase both the thickness in certain floors and the thickness of the basemat to improve performance in a seismic event. The end result was that the overall building height measured from the bottom of the basemat to the top of the roof was now larger. In response to these changes, the design was revised to provide a deeper building excavation and maintain the aboveground height of the building at the same elevation as the previous design. This design change would have resulted in the penetration of the poorly welded tuff layer requiring additional excavation, and resulted in the Deep Excavation Option. The Deep Excavation Option entails excavating through the poorly welded tuff and filling the hole with low-slump concrete to the elevation of the bottom of the basemat, as discussed in Chapter 2, Section 2.6.2.

In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to avoid the activities and costs associated with the additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher aboveground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. The Shallow Excavation Option would be reviewed by the DNFSB before it was implemented should the decision be made to construct the Modified CMRR-NF using this construction option. This *CMRR-NF SEIS* has been prepared to address these changes and to evaluate the potential environmental impacts associated with the alternatives discussed in Chapter 2, "Project Description and Alternatives."

1.3 Purpose and Need for Agency Action

The purpose and need for NNSA action has not changed since issuance of the 2003 *CMRR EIS*. NNSA needs to act to provide the physical means for accommodating the continuation of mission-critical AC and MC capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner. Concurrently, NNSA proposes to take advantage of the opportunity to consolidate AC and MC activities for the purpose of increasing operational efficiency and enhancing security.

AC and MC activities historically conducted at the CMR Building are fundamental capabilities required for support of all DOE and NNSA nuclear mission work at LANL. These AC and MC capabilities have been available at LANL for the entire history of the site since the mid-1940s, and these capabilities remain critical to future work at the site. As discussed above, the CMR Building's nuclear operations and capabilities are currently restricted to maintain compliance with safety requirements. Due to facility limitations, the CMR Building is not being operated to the full extent needed to meet DOE and NNSA operational requirements for the foreseeable future. In addition, consolidation of like activities at TA-55 would enhance operational efficiency in terms of security, support, and risk reduction related to handling and transportation of nuclear materials.

1.4 Scope and Alternatives

This section introduces the three alternatives analyzed in this *CMRR-NF SEIS* for carrying out AC and MC operations at LANL. These alternatives are addressed in more detail in Chapter 2, Section 2.6. See Section 2.7 for a discussion of alternatives that were considered and dismissed from detailed analysis.

- ***No Action Alternative (2004 CMRR-NF):*** Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD, with two additional project activities (management of excavated soils and tuff and a new electrical substation) analyzed in the 2008 *LANL SWEIS*. Based on new information learned since 2004, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA AC and MC mission work. Therefore, the 2004 CMRR-NF would not be constructed.

- ***Modified CMRR-NF Alternative:*** Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, with certain design and construction modifications and additional support activities that address seismic safety, infrastructure enhancements, nuclear safety-basis requirements and sustainable design principles (sustainable development – see glossary). This alternative has two construction options: the Deep Excavation Option and the Shallow Excavation Option. All necessary AC and MC operations could be performed as required to safely conduct the full suite of NNSA mission work. The Modified CMRR-NF embodies the maturation of the 2004 CMRR-NF design to meet all safety standards and operational requirements.

- ***Continued Use of CMR Building Alternative:*** Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the CMR Building at TA-3, with normal maintenance and component replacements at the level needed to sustain programmatic operations for as long as feasible. Certain AC and MC operations would be restricted. Administrative and radiological laboratory operations would take place in RLUOB at TA-55.

1.4.1 No Action Alternative

Under the No Action Alternative, NNSA would implement the decisions made in the 2004 *CMRR EIS* ROD, the *Complex Transformation SPEIS* ROD, and the 2008 *LANL SWEIS* RODs. NNSA would construct the new CMRR-NF (referred to as the "2004 CMRR-NF") at LANL within TA-55 next to the already constructed RLUOB (see Figure 1–3). The 2004 CMRR-NF would be an aboveground building described under Alternative 1, Construction Option 3, in the 2003 *CMRR EIS*. As part of the No Action Alternative, which was selected in the *LANL SWEIS* ROD, the 2008 *LANL SWEIS* evaluated (1) the transportation and storage of up to 150,000 cubic yards (115,000 cubic meters) per year of excavated soil or spoils (soil and rock material) from the 2004 CMRR-NF construction and other construction projects that could be undertaken at the site and (2) installation of a new substation on the existing 13.8-kilovolt power distribution loop in TA-50 to provide an independent power feed to the existing TA-55 Plutonium Complex and the new CMRR Facility.

AC and MC operations and associated research and development Hazard Category 2 and 3 laboratory capabilities would be relocated in stages over 2 to 4 years from their current locations at the CMR Building to the 2004 CMRR-NF; those operations and activities would continue in the 2004 CMRR-NF over about a 50-year period. After laboratory operations are removed from the CMR Building, it would undergo DD&D activities. Following the closeout of operations at the new 2004 CMRR-NF toward the end of the twenty-first century, DD&D activities at that facility would occur. The phased elimination of CMR Building operations was originally estimated to be completed by around 2010; completion is now projected by about 2023.

Construction of the 2004 CMRR-NF would include the construction of connecting tunnels to RLUOB and the TA-55 Plutonium Facility, material storage vaults, utility structures and trenches, security structures, parking area(s), and a variety of other support areas (such as material laydown areas, a concrete batch plant, and equipment storage and parking areas). The construction force would peak at 300 workers. Each of these actions and activities was described in the 2003 *CMRR EIS*, the 2008 *LANL SWEIS*, and the 2008 *Complex Transformation SPEIS*. Specifically, NNSA would build the 2004 CMRR-NF at TA-55 as one building of a two-building CMRR Facility (under Alternative 1, Construction Option 3, as analyzed in the *CMRR EIS* and selected in the *CMRR EIS* ROD).

The 2004 CMRR-NF would be entirely designed as a Hazard Category 2 facility. The 2004 CMRR-NF would have a building "footprint" measuring about 300 by 210 feet (91 by 64 meters) and would comprise approximately 200,000 square feet (18,600 square meters) of solid floor space divided between two stories, and would also include one steel grating "floor" where mechanical and other support systems would be located and one small roof cupola enclosing the elevator equipment. The 2004 CMRR-NF would have an aboveground portion (consisting of a single story) that would house the Hazard Category 3 laboratories and a belowground portion (consisting of a single story) that would house the Hazard Category 2 laboratories and extend an average of 50 feet (15 meters) below ground. The total amount of laboratory workspace where mission-related AC and MC operations would be performed was not stated in the 2003 *CMRR EIS*. In 2004, the estimate of 22,500 square feet (2,100 square meters) of laboratory space was provided as a result of NNSA/LANL integrated nuclear planning activities (DOE 2004b). Fire protection systems for the 2004 CMRR-NF would be developed and integrated with the existing exterior TA-55 site-wide fire protection water storage tanks and services.

As it was envisioned to be constructed in the *CMRR EIS*, the 2004 CMRR-NF could not satisfy current facility seismic and nuclear safety requirements. Therefore, the 2004 CMRR-NF would not be able to safely function at a level sufficient to fully satisfy DOE and NNSA mission support needs, and thus would not fully meet DOE's stated purpose and need for taking action. The 2004 CMRR-NF would not be constructed.

1.4.2 Modified CMRR-NF Alternative

Under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative, NNSA would construct the new CMRR-NF (referred to as the "Modified CMRR-NF") at TA-55 next to the already constructed RLUOB, as identified in the No Action Alternative, with certain construction enhancements and additional associated construction support activities. These enhancements and associated construction support activities are necessary to make the facility safe to operate based on new seismic information available since the issuance of the *CMRR EIS* ROD in 2004. The structure would be constructed to meet the current International Building Code; Leadership in Energy and Environmental Design® (LEED) certification requirements, as applicable; and DOE requirements for nuclear facilities, including projected seismic event response performance and nuclear safety-basis requirements based on new site geologic information, and fire protection and security requirements. As under the No Action Alternative, AC and MC operations and associated research and development Hazard Category 2 and 3 laboratory capabilities would be relocated in stages from their current locations at the CMR Building and the TA-55 Plutonium Facility to the Modified CMRR-NF, where operations and activities are expected to continue over about the next 50 years. The phased elimination of CMR Building operations is projected to be completed by about 2023. Both the CMR Building and the Modified CMRR-NF would undergo DD&D after operations are discontinued, as identified under the No Action Alternative.

Under this alternative, the Modified CMRR-NF construction phase would also include the construction of connecting tunnels, material storage vaults, utility structures and trenches, security structures, parking area(s), and a variety of other support areas identified under the No Action Alternative. Implementing the Modified CMRR-NF Alternative construction would require the use of additional structural concrete and reinforcing steel for the construction of the building's walls, floors, and roof; additional soil excavation, soil stabilization, and special foundation work would also be necessary. Also, a set of fire suppression water storage tanks would be located within the building, rather than connecting with the existing fire suppression system at TA-55. Additional temporary and permanent actions required to construct the Modified CMRR-NF under this alternative beyond those actions identified under the No Action Alternative would include (1) additional construction personnel, (2) the installation and use of additional parking areas, construction equipment and building materials storage areas, excavation spoils storage areas, craft worker office and support trailers, and personnel security and training facilities; (3) the installation and use of up to two additional concrete batch plants (for a total of three) and a warehouse building; and (4) the installation of overhead and/or underground power lines, site stormwater detention ponds, road realignments, turn lanes, intersections, and traffic flow measures at various locations.

Under the Modified CMRR-NF Alternative, the Modified CMRR-NF would also be an above- and below-ground structure. The amount of laboratory floor space where AC and MC operations would occur would be about the same as described under the No Action Alternative (22,500 square feet [2,100 square meters]). The estimated building "footprint" is about 342 feet long by 304 feet wide (104 meters long by 93 meters wide), with about 344,000 square feet (32,000 square meters) of usable floor space divided among four stories and a partial roof level.

The footprint of the Modified CMRR-NF is larger than that of the 2004 CMRR-NF due to space required for engineered safety systems and equipment, such as an increase in the size and quantity of heating, ventilation, and air conditioning ductwork and the addition of safety-class fire suppression equipment, plus the associated electrical equipment. This equipment added 42 feet (13 meters) to the building in one dimension. The addition of 94 feet (29 meters) in the other dimension was to provide corridor space for movement of equipment, to avoid interference between systems (mechanical, electrical, piping), and to allow enough space for maintenance, repair and inspection, and mission support activities (maintenance shop, waste management areas, and radiological protection areas). Part of the increase in building footprint over the 2004 CMRR-NF is due to thicker walls and other structural features required by current seismic and nuclear safety requirements.

The Modified CMRR-NF Alternative includes two construction options, designated as the Deep Excavation Option and the Shallow Excavation Option. Under either option, the Modified CMRR-NF would be designed to meet all current facility operations requirements. Under the Deep Excavation Option, NNSA would excavate and backfill the building footprint area down to a depth below a poorly welded tuff layer that lies from about 75 feet (23 meters) to 130 feet (40 meters) below the original ground level. Then the excavated site would be partially backfilled with low-slump concrete to form a 60-foot-thick (18-meter-thick) engineered building site. Three of the building's floors would be located below ground; the fourth floor and a roof equipment penthouse would be above ground. The removed geologic material would be transported to storage areas at LANL for reuse in other construction projects or for landscaping purposes. The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basemat well above that layer in the overlying stable geologic layer, which would act in a raft-like fashion to allow the building to "float" over the poorly welded tuff layer. Under this option, the Modified CMRR-NF's base elevation would be about 8 feet (2.4 meters) lower than the excavation described under the No Action Alternative. Engineered backfill would be used to partially bury the building. The building would have three stories below ground and one above ground on the northwest. Due to site sloping, there would be two stories below ground and two stories and a partial roof level above ground on the southeast.

The Modified CMRR-NF, as envisioned to be constructed under this alternative (either construction option), would meet all applicable codes and standards for new nuclear facility construction. Therefore, implementing this alternative would allow operations within the Modified CMRR-NF that would fully satisfy DOE and NNSA mission support needs. This alternative would fully meet NNSA's stated purpose and need for taking action.

1.4.3 Continued Use of CMR Building Alternative

Under the Continued Use of CMR Building Alternative, NNSA would continue to carry out laboratory operations in the CMR Building at TA-3, with radiological laboratory and administrative support operations moving to the newly constructed RLUOB, located in TA-55. The continued operation of the CMR Building over an extended period (years to decades) would result in continued reduction of laboratory space as operations are further consolidated or eliminated due to safety concerns. It may also include the administrative reduction of "materials at risk" as necessary within portions of the CMR Building as part of routine safety and security measures to ensure continued safe worker conditions.

This alternative would result in very limited AC and MC capabilities at LANL over the extended period, and these capabilities could gradually become more limited and more focused on supporting plutonium operations, depending on the overall ability of the CMR Building to be safely operated and maintained in a physically prudent fashion. Moving the TA-3 CMR Building personnel and radiological laboratory functions into RLUOB over the next couple of years would result in considerable operational inefficiencies because personnel would have to travel by vehicle between offices and radiological laboratories at RLUOB and Hazard Category 2 laboratories that remain in the CMR Building. Additionally, the overall laboratory space allotted for certain functions might have to be duplicated at the two locations. When AC and MC laboratory operations eventually cease in the CMR Building, the building would undergo DD&D.

This alternative does not completely satisfy NNSA's stated purpose and need to carry out AC and MC operations at a level to satisfy the entire range of DOE and NNSA mission support functions. However, this alternative is analyzed in this *CMRR-NF SEIS* as a prudent measure in light of possible future fiscal budgetary constraints.

1.5 Decisions to be Supported by this *CMRR-NF SEIS*

NNSA must decide whether to implement one of the alternatives wholly or one or more of the alternatives in part. NNSA may choose to implement either of the action alternatives in its entirety as described and analyzed in this *CMRR-NF SEIS*, or it may elect to implement only a portion of the alternatives.

The environmental impact analyses of the alternatives considered in this *CMRR-NF SEIS* provide the NNSA decisionmakers with important environmental information to assist in the overall CMRR-NF decisionmaking process. The 2008 *Complex Transformation SPEIS* provided the environmental impacts basis for the NNSA Administrator's decision to programmatically retain the plutonium-related manufacturing and research and development capabilities at LANL and, in support of those activities, to maintain AC and MC functions at LANL during CMRR-NF construction and operations in accordance with the earlier *CMRR EIS* ROD. These decisions were issued in the 2008 *Complex Transformation SPEIS* ROD. Remaining project-specific decisions to be made by the NNSA Administrator regarding the CMRR-NF include (1) whether to construct a Modified CMRR-NF to meet recently identified building construction requirements and implement all or some of the additional construction support activities identified under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative; or (2) whether to forgo construction of the CMRR-NF in favor of continuing to operate the CMR Building as a Hazard Category 2 Nuclear Facility with a restricted level of operations for mission support work under the Continued Use of CMR Building Alternative. The remaining alternative, to construct the 2004 CMRR-NF as it was described and analyzed in the 2003 *CMRR EIS* and its associated 2004 ROD, the 2008 *LANL SWEIS*, the *Complex Transformation SPEIS* and its associated ROD, and in this *CMRR-NF SEIS* as the No Action Alternative, does not meet NNSA's purpose and need and thus, would not be implemented.

NNSA is not planning to revisit decisions at this time that it reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD related to maintaining CMR operational capabilities at LANL to support critical NNSA missions. AC and MC capabilities were a fundamental component of Project Y during the Manhattan Project era, and the decision to establish these capabilities at the Los Alamos site was made originally by the U.S. Army Corps of Engineers, Manhattan District. DOE's predecessor agency, the Atomic Energy Commission, made the decision to continue support for and expand AC and MC capabilities at LANL after World War II; the CMR Building was constructed to house these needed capabilities. DOE considered the issue of maintaining CMR capabilities (along with other capabilities at LANL) in 1996 as part of its review of the Stockpile Stewardship Program and made decisions at that time that required the retention of CMR capabilities at LANL. DOE concluded in the 1999 *LANL SWEIS* ROD that, due to a lack of information on proposal(s) for replacement of the CMR Building to provide for its continued operations and capabilities, it was not the appropriate time to make specific decisions on the project. With the support of the 1999 *LANL SWEIS* impact analyses, however, DOE made a decision on the level of operations at LANL that included the capabilities housed by the CMR Building. In 2003, NNSA prepared the *CMRR EIS* and, in 2004, issued its implementation decisions for locating the CMRR Facility at LANL in TA-55, for constructing a two-building CMRR Facility with Hazard Category 2 operations below ground, and for the DD&D of the existing CMR Building after all operations were re-established at the new CMRR Facility. The 2008 *LANL SWEIS* supported NNSA decisions on the level of operations at LANL that included both the operational capabilities housed by the CMR Building and the construction of the CMRR Facility at TA-55. However, NNSA deferred implementing decision(s) on the CMRR-NF until completion of the programmatic impact analysis (the *Complex Transformation SPEIS*) for transforming the nuclear weapons complex into a smaller, more-efficient enterprise. In December 2008, NNSA issued its decisions on the nuclear enterprise, which included the decision to construct and operate the CMRR-NF at LANL as identified in the *CMRR EIS* ROD. There is no current proposal to change or modify the operation of the CMRR-NF as it was described in these prior NEPA documents, nor is there any current proposal to change the disposition of the existing CMR Building after it has been decommissioned and decontaminated.

NNSA is not planning to revisit decision(s) made recently on actions geographically located along the LANL Pajarito Mesa (where TA-55 is located) or along the Pajarito Road corridor (which traverses portions of Pajarito Mesa and Pajarito Canyon). These actions include the following:

- Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) activities, which focus on upgrading various intrusion alarm systems and related security measures for existing LANL facilities
- The Plutonium Facility Complex Refurbishment Project, also referred to as the "TA-55 Reinvestment Projects," which focuses on refurbishing and repairing the major building systems at the TA-55 Plutonium Facility to extend its reliable future operations
- Replacement of the existing, aging Radioactive Liquid Waste Treatment Facility with a new smaller-capacity facility
- Replacement of the TRU [Transuranic] Waste Facility with a new smaller-capacity facility, which is necessary to facilitate implementation of the TA-54 Material Disposal Area G low-level radioactive waste disposal site closure
- Closure of various material disposal areas at LANL at the direction of the New Mexico Environment Department and in compliance with a Compliance Order on Consent (Consent Order)[10]
- Continuation of waste disposal projects and programs, including the Waste Disposition Project at TA-54
- Occupancy and operation of RLUOB

With the exception of NNSA's 2004 decision to construct and operate RLUOB, the other projects and programs listed above were analyzed in the 2008 *LANL SWEIS*, and decisions were made to implement these actions in the 2008 and 2009 *LANL SWEIS* RODs. These actions are not connected to or dependent on the alternatives evaluated in this *CMRR-NF SEIS.*

NNSA may make new, additional decisions in the future on other actions analyzed in the *LANL SWEIS* and *Complex Transformation SPEIS*, such as the need for the construction of some additional replacement buildings to house ongoing LANL operations and to make modifications to facility operations at LANL. As appropriate, any such decision(s) would be announced in one or more new RODs, which would be published in the *Federal Register* and be made publicly available on the Internet. New NEPA documents appear on the DOE NEPA website at http://nepa.energy.gov/.

1.6 Other National Environmental Policy Act Documents

Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (Stockpile Stewardship and Management PEIS) (DOE/EIS-0236). In September 1996, DOE issued the

[10] In March 2005, the New Mexico Environment Department, DOE, and the LANL management and operating contractor entered into a Compliance Order on Consent (Consent Order) (NMED 2005). The purposes of the Consent Order are (1) to define the nature and extent of releases of contaminants at, or from, LANL; (2) to identify and evaluate, where needed, alternatives for corrective measures to clean up contaminants in the environment and prevent or mitigate the migration of contaminants at, or from, LANL; and (3) to implement such corrective measures.

Stockpile Stewardship and Management PEIS (DOE 1996a), which evaluated the potential environmental impacts resulting from activities associated with nuclear weapons research, design, development, and testing, as well as the assessment and certification of weapons' safety and reliability. The document analyzed the development of three new facilities to provide enhanced experimental capabilities. In the December 26, 1996, *Stockpile Stewardship and Management PEIS* ROD (61 FR 68014), DOE elected to downsize a number of weapons complex facilities, build the National Ignition Facility at Lawrence Livermore National Laboratory, and re-establish a pit fabrication capability at LANL. A supplement analysis (DOE/EIS-0236-SA) was prepared to examine the plausibility of a building-wide fire at the TA-55 Plutonium Facility and to examine new studies regarding seismic hazards at LANL. The supplement analysis concluded that there was no need to prepare an SEIS. The impacts of this decision were included in the baseline assessment and in the potential cumulative impacts resulting from the *CMRR EIS* proposed action. In addition, as identified in the *CMRR EIS* Notice of Intent (67 FR 48160), CMR capabilities at LANL supported the Stockpile Stewardship Program mission addressed in the *Stockpile Stewardship and Management PEIS*.

Environmental Assessment for the Proposed CMR Building Upgrades at the Los Alamos National Laboratory, Los Alamos, New Mexico (DOE/EA-1101). In February 1997, DOE issued this environmental assessment (DOE 1997a) that analyzed the effects that could be expected from performing various necessary extensive structural modifications and systems upgrades at the existing CMR Building. Changes to the CMR Building included structural modifications needed to meet then-current seismic criteria and building ventilation, communications, monitoring, and fire protection systems upgrades and improvements. A Finding of No Significant Impact was issued on the environmental assessment for the CMR Building Upgrades Project on February 11, 1997.

As mentioned in Section 1.2, these upgrades were intended to extend the useful life of the CMR Building for an additional 20 to 30 years. However, beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive upgrades originally planned for the CMR Building would be much more time-consuming than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. As a result, DOE reduced the number of CMR Building upgrade projects to only those needed to ensure safe and reliable operations through at least the year 2010. CMR Building operations and capabilities are currently being restricted to ensure compliance with safety and security constraints. The CMR Building is not fully operational to the extent needed to meet DOE and NNSA requirements. In addition, continued support of NNSA's existing and evolving mission roles at LANL was anticipated to require additional capabilities, such as the ability to remediate large containment vessels.

Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS) (DOE/EIS-0350). Issued in 2003, the *CMRR EIS* (DOE 2003b) examined the potential environmental impacts associated with the proposed action of consolidating and relocating the mission-critical CMR capabilities from an aging building to a new modern building (or buildings). NNSA issued its decision to construct a two-building CMRR Facility adjacent to the Plutonium Facility Complex in TA-55 in the 2004 ROD (69 FR 6967). Design and construction of RLUOB has been completed, and that building is currently being outfitted for office occupancy in 2011 and radiological operations in 2013.

Supplement Analysis, Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at Los Alamos National Laboratory, Los Alamos, New Mexico: Changes to the Location of the CMRR Facility Components (CMRR SA) (DOE/EIS-0350-SA-01). Issued in 2005, the *CMRR SA* (DOE 2005a) was prepared to evaluate placement of the administrative and support building (now called RLUOB) for the CMRR Project in the same vicinity, but at locations other than those detailed in the *CMRR EIS* ROD. NNSA concluded that the environmental impacts of the proposed action were adequately bounded by the analyses of impacts presented in the 2003 *CMRR EIS*, and no SEIS was required. However, the RLUOB site location was later changed back to the location originally considered in the 2003 *CMRR EIS*, and the building site considered in the *CMRR SA* was used, as proposed and analyzed in the 2003 *CMRR EIS*, as a location for a permanent paved parking area and temporary construction trailers and other support functions.

Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (2008 *LANL SWEIS*) (DOE/EIS-0380). In the 2008 *LANL SWEIS* (DOE 2008a), NNSA analyzed the potential environmental impacts associated with continued operation of LANL. The LANL SWEIS analyzed the environmental impacts of three alternatives for the level of operations: No Action, Reduced Operations, and Expanded Operations. Under the No Action Alternative, LANL would operate at the levels selected in the 1999 *LANL SWEIS* ROD and implement other LANL activities that had undergone NEPA analyses since 1999. The 2008 *LANL SWEIS* stated that construction of RLUOB had begun, but construction of the CMRR-NF would be delayed until NNSA had completed and issued certain programmatic NEPA analyses and decisions. Two support actions that would potentially support CMRR-NF construction and operation (installation of an electric power substation in TA-50 and removal and transport of about 150,000 cubic yards [115,000 cubic meters] of geologic material per year during construction from the CMRR-NF building site and other construction sites to other LANL locations for storage) were included in the 2008 *LANL SWEIS* environmental impact analyses. The first ROD for the 2008 *LANL SWEIS* was signed on September 19, 2008 (73 FR 55833), and a second ROD was signed on June 29, 2009 (74 FR 33232). Both RODs selected implementation of the No Action Alternative, which included construction and operation of the CMRR Facility as described in the No Action Alternative for this *CMRR-NF SEIS*, and the additional support activities analyzed under that alternative, as well as certain elements from the Expanded Operations Alternative, including seismic upgrades to the TA-55 Plutonium Facility.

Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS) (DOE/EIS-0236-S4). The *Complex Transformation SPEIS* was issued on October 24, 2008 (DOE 2008c); it analyzed the environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more-efficient enterprise that could respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile. Programmatic alternatives considered in the *Complex Transformation SPEIS* specifically addressed facilities that use or store significant (that is, Security Category I/II) quantities of SNM. In the associated 2008 ROD (73 FR 77644) for the programmatic alternatives, NNSA announced its decision to transform the plutonium and uranium manufacturing aspects of the complex into smaller and more-efficient operations while maintaining the capabilities NNSA needs to perform its national security missions. The ROD also stated that manufacturing and research and development involving plutonium would remain at LANL. To support these activities, the *Complex Transformation SPEIS* ROD stated that NNSA would construct and operate the CMRR-NF at LANL as a replacement for portions of the CMR Building, a structure that is nearly 60 years old and faces significant safety and seismic challenges to its long-term operation.

1.7 Public Involvement

During the NEPA process, there are two opportunities for public involvement (see **Figure 1–4**). These opportunities include the scoping process and the public comment period. Although scoping is optional for an SEIS under DOE's NEPA implementing procedures (10 CFR 1021.314(d)), NNSA invited public participation in the scoping process and held two scoping meetings. A public comment period on the draft SEIS is required by 40 CFR 1503.1 and 10 CFR 1021.314(d). Section 1.7.1 summarizes the scoping process and the major comments received from the public. Section 1.7.2 summarizes the public comment process for the *Draft CMRR-NF SEIS* and the major comments received from the public.

1.7.1 Scoping Process

On October 1, 2010, NNSA published a Notice of Intent to prepare this *CMRR-NF SEIS* in the *Federal Register* (75 FR 60745) and on the DOE NEPA website. In this Notice of Intent, NNSA invited public comment on the *CMRR-NF SEIS* proposal. The Notice of Intent listed the issues initially identified by NNSA for evaluation in this *CMRR-NF SEIS*. Public citizens, civic leaders, and other interested parties were invited to comment on these issues and to suggest additional issues that should be considered in this *CMRR-NF SEIS*. The Notice of Intent informed the public that comments on the proposed action could be submitted via U.S. mail, e-mail, a toll-free phone line, a fax line, and in person at public meetings to be held in the vicinity of LANL. The public scoping period was originally scheduled to end on November 1, 2010. In response to public comments, NNSA extended the public scoping period through November 16, 2010 (75 FR 67711).

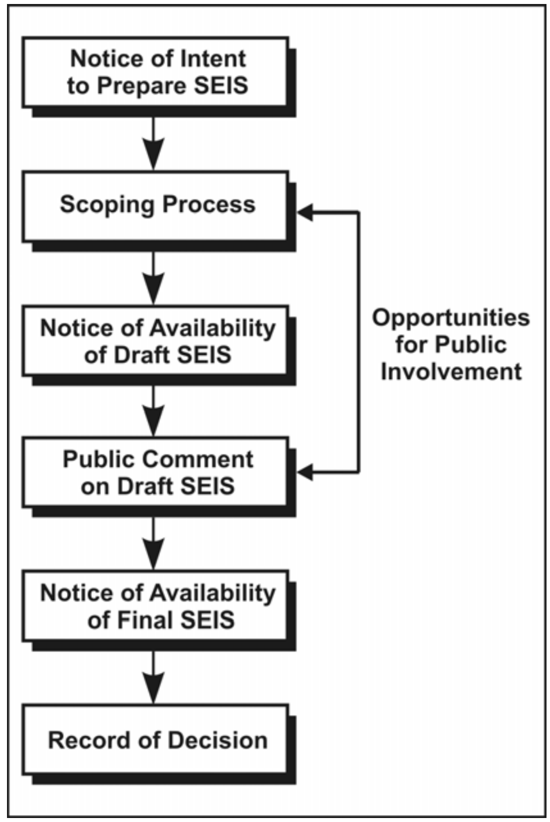

Figure 1–4 National Environmental Policy Act Process for this *CMRR-NF SEIS*

Public scoping meetings were held on October 19, 2010, in White Rock, New Mexico, and on October 20, 2010, in Pojoaque, New Mexico. NNSA representatives were available to respond to questions and comments on the NEPA process and the proposed scope of this *CMRR-NF SEIS*. Members of the public were encouraged to submit written comments, enter comments into a computer database, or record oral comments during the meetings, in addition to submitting comments via letters, the DOE website, or the fax line until the end of the scoping period. All comments were considered by NNSA in preparing this *CMRR-NF SEIS*.

For purposes of this NEPA document, a comment is defined as a single statement concerning a specific issue. An individual commentor's statement may contain several such comments. Most of the oral and written public statements submitted during the *CMRR-NF SEIS* scoping period contained multiple comments on various specific issues. These issues are summarized in the following paragraphs.

Summary of Major Scoping Comments

Approximately 85 comment statements or documents were received during the scoping process from citizens, interested groups, local officials, and representatives of Native American Pueblos in the vicinity of LANL. Where possible, comments on similar or related topics were grouped into common categories for the purpose of summarizing them. After the issues were identified, they were evaluated to determine whether they were relevant to this *CMRR-NF SEIS*. Issues found to be relevant to this SEIS are addressed in the appropriate chapters or appendices of this *CMRR-NF SEIS*.

Many comments were received regarding the type of document that NNSA should prepare, calling for a new EIS rather than an SEIS. Others called for a programmatic EIS, reopening the question of whether the CMRR-NF should be constructed at all and whether it should be constructed at another NNSA site. Similarly, a commentor called for a review of available space throughout the DOE complex (nationwide) for alternative locations for CMR operations. As indicated in Section 1.5, NNSA has determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations (40 CFR 1502.9c and 10 CFR 1021.341(a)-(b), respectively). NNSA is not planning to revisit the decisions regarding the need for the capabilities that would be housed in the proposed CMRR-NF or the decision to locate these capabilities at LANL, as decided in the 2008 *Complex Transformation SPEIS* ROD. There were comments about the alternatives and requests that the No Action Alternative analyze not constructing the CMRR-NF, constructing only a vault structure, or continuing use of the existing CMR Building for AC and MC operations. NNSA has determined that the No Action Alternative considered in this *CMRR-NF SEIS* is the Preferred Alternative that was selected by NNSA for implementation in the 2004 ROD based on the 2003 *CMRR EIS*, and the Continued Use of CMR Building Alternative in this *CMRR-NF SEIS* analyzes the continued use of the CMR Building. Others suggested that NNSA consider locating AC and MC operations in available space in other LANL facilities, such as the TA-55 Plutonium Facility or RLUOB, or building a separate vault that could be used in conjunction with existing LANL facilities so that the CMRR-NF would not be required. In response, RLUOB was not constructed to address the security and safety requirements of Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA would not operate RLUOB as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear material that could be handled in the building. As a result, AC and MC operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Likewise, constructing only the vault structure would not meet NNSA's purpose and need for action to provide sufficient space to safely conduct mission-required AC and MC operations at LANL.

A commentor questioned the need for deep excavation below the poorly welded tuff layer. Since the issuance of the Notice of Intent in October 2010, NNSA has added an additional construction option to the Modified CMRR-NF Alternative. This *CMRR-NF SEIS* analyzes two construction options: Deep Excavation, which would involve excavation to a nominal depth of 130 feet (40 meters) below the ground surface and removal of the poorly welded tuff layer, and Shallow Excavation, which would involve less excavation (to a nominal depth of 58 feet [18 meters]) and constructing the Modified CMRR-NF above the elevation of the poorly welded tuff layer.

Other concerns identified by commentors were related to analyzing the impacts of waste generation, transportation of waste, traffic, and water usage. Additional areas of concern were jobs and DD&D of the CMR Building. NNSA addressed all of these topics in the *Draft CMRR-NF SEIS* and in this *Final CMRR-NF SEIS.*

1.7.2 Public Comments on the *Draft CMRR-NF SEIS*

NNSA prepared the *CMRR-NF SEIS* in accordance with NEPA and CEQ and DOE NEPA regulations (40 CFR Parts 1500 – 1508 and 10 CFR Part 1021, respectively). An important part of the NEPA process is solicitation of public comments on a draft EIS and consideration of those comments in preparing a final EIS. NNSA distributed copies of the *Draft CMRR-NF SEIS* to those organizations, government officials, and individuals who were known to have an interest in LANL, as well as those organizations and individuals who requested a copy. Copies also were made available on the Internet and in regional DOE public document reading rooms and public libraries.

On April 29, 2011, NNSA published a notice in the *Federal Register* (76 FR 24018), concurrent with the U.S. Environmental Protection Agency (EPA) Notice of Availability (76 FR 24021), announcing the availability of the *Draft CMRR-NF SEIS*, the duration of the comment period, the location and timing of the public hearings, and the various methods for submitting comments. NNSA announced a 45-day comment period, from April 29 to June 13, 2011, to provide time for interested parties to review the *Draft CMRR-NF SEIS.* In response to requests for additional review time, the comment period was extended by 15 days, through June 28, 2011, giving commentors a total review and comment period of 60 days (76 FR 28222). In addition, because of the Las Conchas wildfire, NNSA also accepted and responded to comments submitted after the June 28, 2011, deadline through July 31, 2011.

Three public hearings were scheduled at regional venues near LANL from May 24 through May 26, 2011 (Los Alamos, Española, and Santa Fe). In response to requests for additional public hearings, NNSA held a fourth public hearing in Albuquerque on May 23 (76 FR 28222), and provided informal meetings as requested. Newspaper advertisements related to the public hearings, including the Albuquerque hearing, began to run in local newspapers on May 8 and continued through May 19, 2011. NNSA representatives were available to respond to questions on the NEPA process and the *Draft CMRR-NF SEIS* at the hearings and informal meetings. A court reporter was present at each hearing to record the proceedings and prepare a transcript of the public comments. These transcripts are available on the *CMRR-NF SEIS* website at http://nnsa.energy.gov/nepa/cmrrseis. To facilitate participation from hearing attendees, NNSA provided a number of other ways to submit comments at each hearing: a court reporter to record individual comments, computers for entering comments into a computer database, a voice recorder to receive oral comments, and comment forms that could be received at the hearing or mailed by the commentor at a later date. For those unable to attend the hearings, NNSA indicated that comments could be submitted by U.S. mail, e-mail, a toll-free phone line, and a toll-free fax line.

The following is a summary of the comments received on the *Draft CMRR-NF SEIS*. All comments submitted to NNSA during the public comment period and late comments were considered in preparing this *Final CMRR-NF SEIS*. Comments determined not to be within the scope of the *CMRR-NF SEIS* are acknowledged as such in the Comment Response Document (CRD) (Volume 2 of this *Final CMRR-NF SEIS*). The remaining comments were reviewed and responded to by policy experts, subject matter experts, and NEPA specialists, as appropriate. The comment letters, including campaign letters, as well as the public hearing transcripts, are provided with NNSA responses in the CRD. The CRD is organized as follows:

- Section 1 describes the public comment process for the *Draft CMRR-NF SEIS*; the format used in the public hearings on the draft SEIS; the organization of the CRD and how to use the document; and the changes made by NNSA to this *Final CMRR-NF SEIS* in response to the public comments and recent developments that occurred since publication of the *Draft CMRR-NF SEIS*.

- Section 2 presents summaries of the major issues identified from the public comments received on the *Draft CMRR-NF SEIS* and NNSA's response to each issue.

- Section 3 presents a side-by-side display of all comments received by NNSA on the *Draft CMRR-NF SEIS* and NNSA's response to each comment.

- Section 4 contains the references cited in the CRD.

Summary of Comments on the *Draft CMRR-NF SEIS*

Commentors requested changes in the scope of the SEIS. A large number of commentors stated that NNSA should prepare an EIS that would address the need for the nuclear weapons mission or the need for the CMRR-NF. Other comments criticized the No Action Alternative, suggesting that it should analyze not constructing the CMRR-NF as selected in the 2004 *CMRR EIS* ROD. Commentors objected to the range of alternatives because two of the three alternatives would not meet NNSA's stated purpose and need. Others suggested different alternatives that NNSA should consider, including use of RLUOB, the TA-55 Plutonium Facility, or other onsite and offsite locations for AC and MC operations.

A number of commentors suggested that a capacity study or a "plutonium infrastructure" study should be conducted. Commentors made a variety of comments related to the need for and function of the CMRR-NF. Commentors stated directly or implied that the CMR Building, the proposed CMRR-NF, or both, were or would be used to manufacture plutonium pits or "triggers." Some commentors questioned the need for the CMRR-NF, indicating that a production rate of 20 pits per year supported by current facilities and the number of pits in storage should be sufficient. Commentors also questioned the need for pit production because pits are reported to have a greater than 100-year life. Other commentors asked what pit production rate the CMRR-NF was intended to support.

Many commentors expressed concerns and opinions about the geologic features of the LANL area in general and the proposed construction site specifically. In addition to concerns expressed regarding the nearness of a fault and the potential for a seismic event, it was also noted that the construction site lies over a layer of soft volcanic ash that could be compacted by the weight of the building.

Additionally, commentors expressed the fear that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. Specific comments referenced other nuclear accidents, such as those at the Rocky Flats Plant, the Church Rock spill, and the accidents at Three Mile Island and Chernobyl. Many commentors expressed a desire to ensure that similar accidents would not occur at LANL by not building the proposed CMRR-NF or by shutting down other nuclear facilities at LANL. One commentor cited a recent report on volcanic activity in the LANL region. Due to the recent Las Conchas fire of June 2011, commentors were concerned about the impact of wildfires on the CMRR-NF.

Commentors expressed concerns that the Compliance Order on Consent (Consent Order) signed with the State of New Mexico would not be honored if a new nuclear facility were constructed at LANL. Specifically, commentors were doubtful that the cleanup of the Material Disposal Area G in TA-54 would be implemented by December 31, 2015, as required by the Consent Order. Commentors also expressed a desire that funds should be spent on cleanup activities at LANL rather than on a new nuclear facility.

Commentors did not agree with the results of the environmental justice analysis. The U.S. Environmental Protection Agency (EPA) suggested that the analysis be revised to specifically address minority and low-income populations within 5-, 10-, and 20-mile (18-, 16-, and 32-kilometer) distances of the CMRR-NF site.

As with the individual comments, responses to these major topics are included in Volume 2, CRD, of this *CMRR-NF SEIS*. In preparing this *Final CMRR-NF SEIS*, NNSA incorporated changes in response to the comments and more recent information, as discussed in the following section.

1.8 Changes from the *Draft CMRR-NF SEIS*

In preparing the *Final CMRR-NF SEIS,* NNSA made revisions in response to comments received from other Federal agencies, state and local government entities, Native American tribal governments, and the public. In addition, the *Final CMRR-NF SEIS* was changed to provide additional environmental baseline information, include additional analyses, correct inaccuracies, make editorial corrections, and clarify text. The following summarizes the more important changes made in the *Final CMRR-NF SEIS*.

Chapter 1, "Introduction and Purpose and Need for Agency Action," was updated to discuss the reason why the design of the CMRR-NF needed to be modified and how this change resulted in the need to develop an SEIS. Section 1.7, Public Involvement, was modified to summarize the comments received during the scoping period and to include information related to the public comment period and public hearings on the *Draft CMRR-NF SEIS*. Section 1.8, Changes from the *Draft CMRR-NF SEIS*, was added to summarize the changes that have been made. Section 1.9, Organization of this *CMRR-NF SEIS*, was modified to include a paragraph on the addition of the CRD as Volume 2 of this *Final CMRR-NF SEIS*.

Chapter 2, "Project Description and Alternatives," was updated to include additional project-related information. Section 2.4, Proposed Chemistry and Metallurgy Research Building Replacement Project Capabilities, was updated to include additional information on the AC and MC capabilities that would be present in the proposed facility. Section 2.6.2, Modified CMRR-NF Alternative, was updated to include additional information on the evolution of the Deep and Shallow Construction Options and to add propane to the construction requirements associated with this alternative. Propane would be used to heat the building during the winter months for 3 to 6 years. The addition of propane use resulted in small changes in the air quality and greenhouse gas impacts for this alternative, as shown in Chapter 4, Section 4.3.4, Air Quality and Noise, as well as changes in Section 4.3.3, Infrastructure. Information was added in Section 2.6.2 regarding the weight of the proposed CMRR-NF and the ability of the ground beneath the proposed facility to support this weight. A bus parking lot that would be constructed on the boundary of TA-48/55 was also added to this alternative to provide room for buses from the proposed construction workers parking lot in TA-72 to remain near the proposed construction site. This change resulted in a small increase in land use for this alternative, as discussed in Section 4.3.2, Land Use and Visual Resources. The description of potential power upgrades associated with this alternative was modified to indicate that the potential power upgrades from TA-5 to TA-55 to support the Modified CMRR-NF could be temporary or permanent, depending on future power requirements. This does not change the amount of land that may be affected, but could change the impacts from temporary to permanent, as indicated in Section 4.3.2. Section 2.7, Alternatives Considered and Dismissed, was revised to describe in more detail the alternatives that NNSA considered and determined not to be reasonable for meeting the purpose and need for continuing CMR operations into the future. Section 2.7.4 was added to describe other alternatives and proposals considered and to explain why they were not analyzed further in this *CMRR-NF SEIS*. Section 2.10, Summary of Environmental Consequences, was modified to show how the environmental impacts associated with the Modified CMRR-NF Alternative and Continued Use of CMR Building Alternative have changed as a result of the changes discussed in Chapter 4. These changes are all relatively small and do not significantly change any of the environmental consequences presented in the *Draft CMRR-NF SEIS*. Section 2.10 has also been modified to include a summary of the intentional destructive acts sections of Chapter 4 (Sections 4.2.10.3, 4.3.10.3, and 4.4.10.3).

Chapter 3, Affected Environment, was updated in a number of sections. Information was updated in this *Final CMRR-NF SEIS* to reflect the most recent environmental data from the 2009 *SWEIS Yearbook* (LANL 2011b). Information was included in Sections 3.2, Land Use and Visual Resources, and 3.7, Ecological Resources, on the Las Conchas wildfire. None of this information affects the impacts analyses presented in Chapter 4. Section 3.3 was updated to include new estimates of the amount of electricity available to LANL and Los Alamos County. The amount of peak power was reduced from 150 megawatts to 140 megawatts, reflecting the unavailability of two steam-driven turbine generators in TA-3 and increased power available from the Abiquiu Turbine Hydropower Project. These changes resulted in a change in the estimated amount of available electricity and are reflected in changes in the infrastructure sections in Chapter 4, Sections 4.3.3 and 4.4.3, for the Modified CMRR-NF Alternative and Continued Use of CMR Building Alternative, respectively, as well as in Section 4.6, Cumulative Impacts. The availability of electricity continues to cover expected requirements under any of the alternatives. However, peak demand could theoretically exceed available power under the Modified CMRR-NF Alternative, as discussed in the draft SEIS, but this is not expected to occur because actual LANL peak demand has consistently been lower than the estimate included in the 2008 *LANL SWEIS* and used in future forecasts. Additional information was included in the *Final CMRR-NF SEIS* to better describe the seismic studies and information developed for the proposed CMRR-NF site and LANL. This information is included in Chapter 3, Section 3.5, Geology and Soils, and includes information from the 2009 update (LANL 2009b) to the 2007 probabilistic seismic hazards analysis (LANL 2007a). An error in the reported vertical peak ground acceleration at LANL (0.3 *g*) was corrected to 0.6 *g*. This typographical error in the Executive Summary of the source document (LANL 2007a) is not reflective of information presented elsewhere in the probabilistic seismic hazard analysis and was not used in the design of the proposed Modified CMRR-NF. The 2009 update changed the peak horizontal and vertical ground accelerations for the proposed CMRR-NF site in TA-55. The updated factors were lower than the factors included in the 2007 analysis (0.47 *g* compared to 0.52 *g* for peak horizontal ground acceleration and 0.51 *g* compared to 0.6 *g* for peak vertical ground acceleration). The updated values were factored into the design of the proposed Modified CMRR-NF, as described in the *Draft CMRR-NF SEIS*, and do not change any of the analyses presented in this *Final CMRR-NF SEIS*. (This updated information was not available for unlimited public distribution when the *Draft CMRR-NF SEIS* was issued.) Information was included in Section 3.5, Geology and Soils, describing the volcanic history in the region. This information is factored into a revised discussion of potential accidents included in Appendix C. Section 3.9, Socioeconomics, was updated to include the latest information from the 2010 census on the region of influence and to show later unemployment data for the region. These changes did not result in any significant changes to the socioeconomics impacts sections in Chapter 4.

The 2010 census data were used to update the population projections to 2030 for total population, minority populations, and low-income population. As a result of slower than previously projected growth through 2010, the 2030 population projection for the 50-mile (80-kilometer) radius area surrounding TA-55 was reduced from about 545,000 to 511,000, and for the area surrounding TA-3, from about 536,000 to 502,000. Chapter 3, Section 3.10, Environmental Justice, was updated to include changes as a result of 2010 census data and to break the information down to smaller areas for evaluation (5-, 10-, and 20-mile [8-, 16-, and 32-kilometer] radii) in addition to the area within 50 miles (80 kilometers) of TA-55 and TA-3, as requested by EPA. The distribution of the population over the 50-mile (80-kilometer) radius was also updated using the latest census data, and more refined data were used (block data versus block group data; see Appendix B) to estimate the population within 10 miles (16 kilometers) of TA-55 and TA-3. As a result, more people are located closer to LANL (within 5 miles [8 kilometers]) than previously projected. The updated population projections and distributions were used to re-estimate the human health impacts associated with the No Action Alternative (2004 CMRR-NF) (Chapter 4, Section 4.2.10.2, for accidents); the Modified CMRR-NF Alternative (Section 4.3.10); and the Continued Use of CMR Building Alternative (Section 4.4.10), as well as the environmental justice analysis presented in Sections 4.3.11 and 4.4.11. The projected population doses from normal operations and the population accident doses changed slightly as a result of these changes, but not to the extent that the assessment from the draft SEIS would change. Similarly, the doses included in the environmental justice analysis changed, but not significantly. Additional information was included in Chapter 3, Section 3.11, Human Health, on historical health effects studies that have been done on the area surrounding LANL. This information is presented for background and does not affect any of the impacts analyses presented in Chapter 4.

In addition to the updates to Chapter 4 discussed above, other changes have been made to Chapter 4 since the *Draft CMRR-NF SEIS* was issued. Information has been added in Section 4.2.10.2 on the accident analysis that was performed for this *CMRR-NF SEIS*, as presented in Appendix C, as well as the changes in the accident analysis since the *Draft CMRR-NF SEIS* was issued. These changes do not significantly change the results, with the exception of significantly higher doses to the maximally exposed individual (MEI) and noninvolved worker under the seismically induced spill and fire accident at the CMRR-NF. In this *Final CMRR-NF SEIS*, this accident assumes that the earthquake initiates a radioactive material spill that is followed shortly thereafter by a fire, instead of both accidents occurring simultaneously, as was assumed in the *Draft CMRR-NF SEIS*. This change in assumptions results in a larger dose to the MEI and noninvolved worker because the radioactive materials associated with the assumed spill are not immediately lofted by the fire, which would lessen doses to persons close to the accident site. Additional discussion also was added to the accident analysis section for the Modified CMRR-NF Alternative

(Section 4.3.10.2) regarding the potential for a wildfire affecting the facility and the effects of a seismic event that damages the Modified CMRR-NF and other plutonium facilities in TA-55.

A special pathways consumer analysis was added to the environmental justice sections in Chapter 4, Sections 4.3.11 and 4.4.11, to show the potential impacts of the alternatives on individuals who may subsist on fish and wildlife caught within the vicinity of LANL. This analysis shows that special pathway consumers would not be exposed to significant risks as a result of implementing either of these alternatives. Section 4.6, Cumulative Impacts, was updated to account for newly acquired information about other projects in the vicinity of LANL, but these projects do not change the impacts discussions presented in this section.

Appendix B was updated to include a revised Section B.3, Air Quality, which factors in the requirement for propane use during construction at the Modified CMRR-NF and a revised number of emergency backup generators associated with the proposed CMRR Facility. Section B.5, Geology and Soils, was modified to eliminate Table B–9, which was related to the Modified Mercalli Intensity Scale. The Modified Mercalli Intensity Scale is not considered in the design of buildings. The design of the CMRR-NF is influenced by peak ground acceleration factors, as discussed in Chapter 3, Section 3.5. Section B.10, Environmental Justice, was modified to include a discussion of changes related to the use of 2010 census data in projecting the affected population to the year 2030, as well as an evaluation of a special pathways receptor.

Appendix C, Evaluation of Human Health Impacts from Facility Accidents, was updated to include a discussion of the Fukushima Daiichi Nuclear Power Plant accident (Section C.9) and wildfires and volcanic activity in the LANL vicinity (Section C.4.1) as they relate to the proposed action in this *CMRR-NF SEIS*. Section C.6 was added to discuss the potential for offsite land contamination in the event of a severe earthquake that results in the release of radioactive materials. Appendix C was also updated to include a discussion of the impact of a severe earthquake on the multiple plutonium facilities in TA-55 should the CMRR-NF be built there (Section C.7). In the event of such an earthquake, it is expected that the consequences would be dominated by releases from the TA-55 Plutonium Facility, which is currently being upgraded to address seismic concerns.

The population consequences and risks shown in Appendix C have been re-estimated using the latest population projections and distributions, as discussed above. The estimated consequences for some accidents have changed as a result of these changes, but the risks associated with these accidents are not significantly different from those presented in the *Draft CMRR-NF SEIS*. The accident with the largest changes is the seismically induced spill, followed by a fire accident scenario for the CMRR-NF that was changed, as discussed above. This accident scenario was changed from that presented in the *Draft CMRR-NF SEIS* to reflect changes in the understanding of how it would progress and to present a more conservative accident scenario with respect to doses to the MEI and noninvolved worker.

1.9 Organization of this *CMRR-NF SEIS*

This *CMRR-NF SEIS* consists of Chapters 1 through 10 and Appendices A through D. The CMRR-NF alternatives are described in Chapter 2, which also includes a comparison of potential impacts under each of the alternatives. In Chapter 3, the LANL environment is described in terms of resource areas to establish the baseline for the impact analysis. Chapter 4 provides descriptions of the potential impacts of the alternatives on the resource areas. Chapter 4 also includes discussions of DD&D, cumulative impacts, irreversible and irretrievable commitments of resources, the relationship between short-term uses of the environment and long-term productivity, and mitigation. Chapter 5 provides a description of the environmental, health, and safety compliance requirements governing implementation of the alternatives, including permits and consultations. Chapters 6, 7, 8, 9, and 10 are the glossary of terms, the list of references, the list of preparers, the *CMRR-NF SEIS* distribution list, and the index, respectively.

Appendices A, B, C, and D are the list of applicable *Federal Register* notices, the methodologies to assess impacts on environmental resource areas, evaluation of human health impacts from facility accidents, and the contractor disclosure statement, respectively.

Volume 2 is the CRD for this *CMRR-NF SEIS.* Section 1 of Volume 2 provides an overview of the *Draft CMRR-NF SEIS* public comment process. Section 2 identifies the major topics from the public comments and NNSA responses. Section 3 shows the public comment documents with the individual comments delineated and corresponding NNSA responses in a side-by side format. Section 4 presents the references for Volume 2.

CHAPTER 2
PROJECT DESCRIPTION AND ALTERNATIVES

2 PROJECT DESCRIPTION AND ALTERNATIVES

Chapter 2 begins with a summary description of the current and future support that the Los Alamos National Laboratory analytical chemistry (AC) and materials characterization (MC) capabilities are providing to the Stockpile Stewardship Program. It provides descriptions of the existing Chemistry and Metallurgy Research Building and current AC and MC capabilities, as well as the proposed new Chemistry and Metallurgy Research Building Replacement Nuclear Facility Project. This chapter includes a description of the reasonable alternatives, the alternatives considered and subsequently eliminated from detailed evaluation, and the planning assumptions and bases for the analyses presented in this *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)*; identifies the National Nuclear Security Administration's Preferred Alternative; and presents a comparison of the impacts of the three alternatives addressed in this *CMRR-NF SEIS*.

2.1 Current and Future Support of Stockpile Stewardship

Los Alamos National Laboratory (LANL) has been assigned a variety of science, research and development, and production missions that are critical to the accomplishment of the U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA) national security objectives, as reflected in the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (SSM PEIS)* (DOE 1996a) and its associated Record of Decision (ROD), which was published in the *Federal Register* (FR) on December 26, 1996 (61 FR 68014), and the *Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS)* (DOE 2008c) and its associated RODs, which were published in the *Federal Register* on December 19, 2008 (73 FR 77644; 73 FR 77656). Specific LANL assignments for the foreseeable future include production of weapons components, assessment and certification of the nuclear weapons stockpile, surveillance of weapons components and weapons systems, ensuring safe and secure storage of strategic materials, and management of excess plutonium inventories. In addition, LANL supports actinide[1] science missions ranging from the plutonium-238 heat-source program for the National Aeronautics and Space Administration to arms control and technology development.

The capabilities needed to execute the NNSA and DOE missions require facilities at LANL that can be used to handle actinide metals and other radioactive materials in a safe and secure manner. Of primary importance are the facilities located within Technical Area 3 (TA-3) (primarily the Chemistry and Metallurgy Research [CMR] Building) and TA-55 (the Plutonium Facility) that are used for processing, characterizing, and storing large quantities of special nuclear material (SNM). The operations in these two facilities, along with those in several support facilities, are critical to the Stockpile Stewardship Program and to critical programs supporting the DOE Offices of Science; Environmental Management; Nonproliferation and National Security; and Nuclear Energy, Science, and Technology.

Special nuclear material (SNM) is a category of material subject to regulation under the Atomic Energy Act, consisting primarily of fissile materials. It is defined to mean plutonium, uranium-233, uranium enriched in the isotopes of uranium-233 or -235, and any other material that the U.S. Nuclear Regulatory Commission determines to be SNM, but it does not include source material.

[1] *"Actinide" refers to any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium), including uranium and plutonium. All members of this group are radioactive.*

In January 1999, NNSA approved a strategy for managing operational risks at the CMR Building. This strategy recognized that the 60-year-old CMR Building could not continue its mission support at an acceptable level of risk to public and worker health and safety without operational restrictions. The strategy also committed NNSA and its operating contractor to manage the facility to a planned end-of-life in or about the year 2010. In addition, it committed NNSA and its operating contractor to develop long-term facility and site plans to relocate CMR capabilities elsewhere in LANL as necessary to maintain support of national security missions into the future. Since this strategy was approved, CMR capabilities have been restricted substantially, both by planned NNSA actions and by unplanned facility outages, including the shutdown of operations within three of the eight wings of the CMR Building. As time passes, additional CMR operations and capabilities are being restricted due to safety and security constraints. For example, the Security Category I SNM storage vault at the CMR Building has been reclassified to a Security Category III/IV storage vault, which limits material inventories. It is apparent that action is required to ensure that LANL can maintain its support of critical national security missions. The Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) Project seeks to ensure long-term support of NNSA Stockpile Stewardship Program strategic objectives; these capabilities are necessary to support the current and future directed stockpile work and campaign activities at LANL.

2.2 Description of the Existing Chemistry and Metallurgy Research Building

2.2.1 Overview

The CMR Building (Building 3-29) was designed and built within TA-3 as an actinide chemistry and metallurgy research facility (see **Figure 2–1**). The main corridor, with seven wings (Wings 1, 2, 3, 4, 5, 7, and an Administration Wing), was constructed between 1949 and 1952. In 1960, a new wing (Wing 9) was added for activities that must be performed in hot cells (enclosed, shielded areas that safely facilitate the remote manipulation of radioactive materials). The planned Wings 6 and 8 were never constructed. In 1986, an SNM storage vault was added underground. The three-story CMR Building now has eight wings connected by a spinal corridor and contains a total of 550,000 square feet (51,000 square meters) of space. It is a multiple-user facility in which specific wings are associated with different activities. In the past, the CMR Building provided full capabilities for performing SNM analytical chemistry (AC) and materials characterization (MC). The broad spectrum of MC work once performed in Wing 2 of the CMR Building has been suspended or relocated as a result of restrictions on the quantity of SNM allowed in the building. Now only a limited set of MC work is performed in Wings 5 and 7. Pit production does not take place at the CMR Building.

Waste management conducted within the CMR Building is designed to meet waste acceptance criteria for onsite or offsite waste management and disposal facilities. The aqueous waste from radioactive activities and other nonhazardous aqueous chemical wastes from the CMR Building are discharged from each wing into a network of drains specifically designated to transport waste solutions to the existing Radioactive Liquid Waste Treatment Facility (RLWTF) in TA-50 for treatment and disposal. The primary sources of radioactive liquid waste at the CMR Building are laboratory sinks, duct washdown systems, and overflows and blowdowns from circulating chilled water systems.

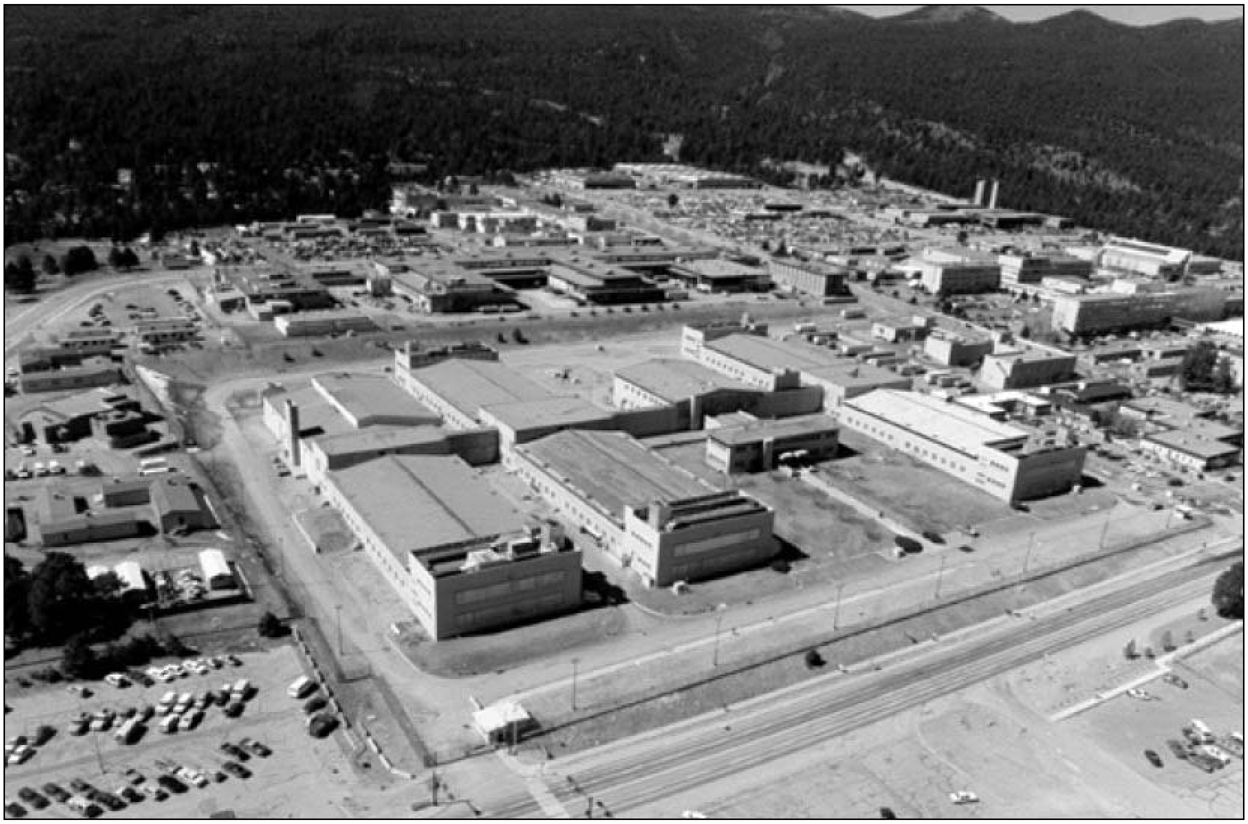

Figure 2–1 Existing Chemistry and Metallurgy Research Building

The CMR Building infrastructure was designed with air, temperature, and power systems that are operational nearly 100 percent of the time. Short-term backup power is provided for these systems by an uninterruptible power supply; longer-term backup power is provided by the TA-3 Power Plant.

The CMR Building was constructed between 1949 and 1952 to the building code standards in effect at that time. Over the intervening years, DOE has systematically identified and corrected some deficiencies and upgraded some systems to address changes in standards or to improve safety performance. However, over time, the effects of facility aging, combined with changes to safety codes, standards, and requirements, have resulted in a situation in which the building cannot be safely operated for mission support work without restrictions on the types and levels of activities and limits on material inventories. Although completed upgrades to the CMR Building allow for continued safe nuclear operations at an acceptable level of risk, it cannot be relied upon to meet mission support requirements for 50 years into the future. Major upgrades to building structural and safety systems would be required to sustain nuclear operations of the type and at the levels required to meet all DOE and NNSA mission support work requirements. Furthermore, geologic studies and seismic investigations completed at LANL from 1996 through 1998 and supplemented by a 2007 probabilistic seismic hazard analysis (LANL 2007a) identified possible connections between several faults in the surrounding area that could increase the likelihood of fault rupture in TA-3 and beneath the CMR Building that would result in an unacceptable level of damage and potentially destroy the building in the event of a severe earthquake. Upgrades to the structure of the CMR Building to address these concerns and meet the latest seismic code requirements so that the building could be operated as needed to fully support the building's identified mission were recognized as being physically very complicated and difficult to the point of being almost impossible to address without tearing down several wings of the existing structure and rebuilding them from the basements up.

The CMR Building was originally designated as a Hazard Category 2, Security Category II nuclear facility under the criteria contained in DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques for Compliance With DOE Order 5480.23, Nuclear Safety Analysis Reports*; and DOE Order 474.2, *Nuclear Material Control and Accountability*. The security category designation of a facility is determined by the type, quantity, and attractiveness level (that is, how readily the material could be converted into a nuclear explosive device) of the material of concern. A Hazard Category 2 facility is defined as a nuclear facility for which a hazard analysis shows the potential for significant onsite consequences. As noted previously, NNSA and its operating contractor have restricted CMR Building operations and have reduced SNM quantities allowed within the building. The CMR Building is currently operated as a Hazard Category 2, Security Category III nuclear facility.

2.2.2 Administrative Wing and Wing 1

The Administrative Wing and Wing 1 consist of individual office spaces, passageways, and conference rooms on three floors (see **Figure 2–2**). Access to the CMR Building is through these wings and is controlled. The CMR Building Operations Center, housed in the Administration Wing, monitors all important system parameters.

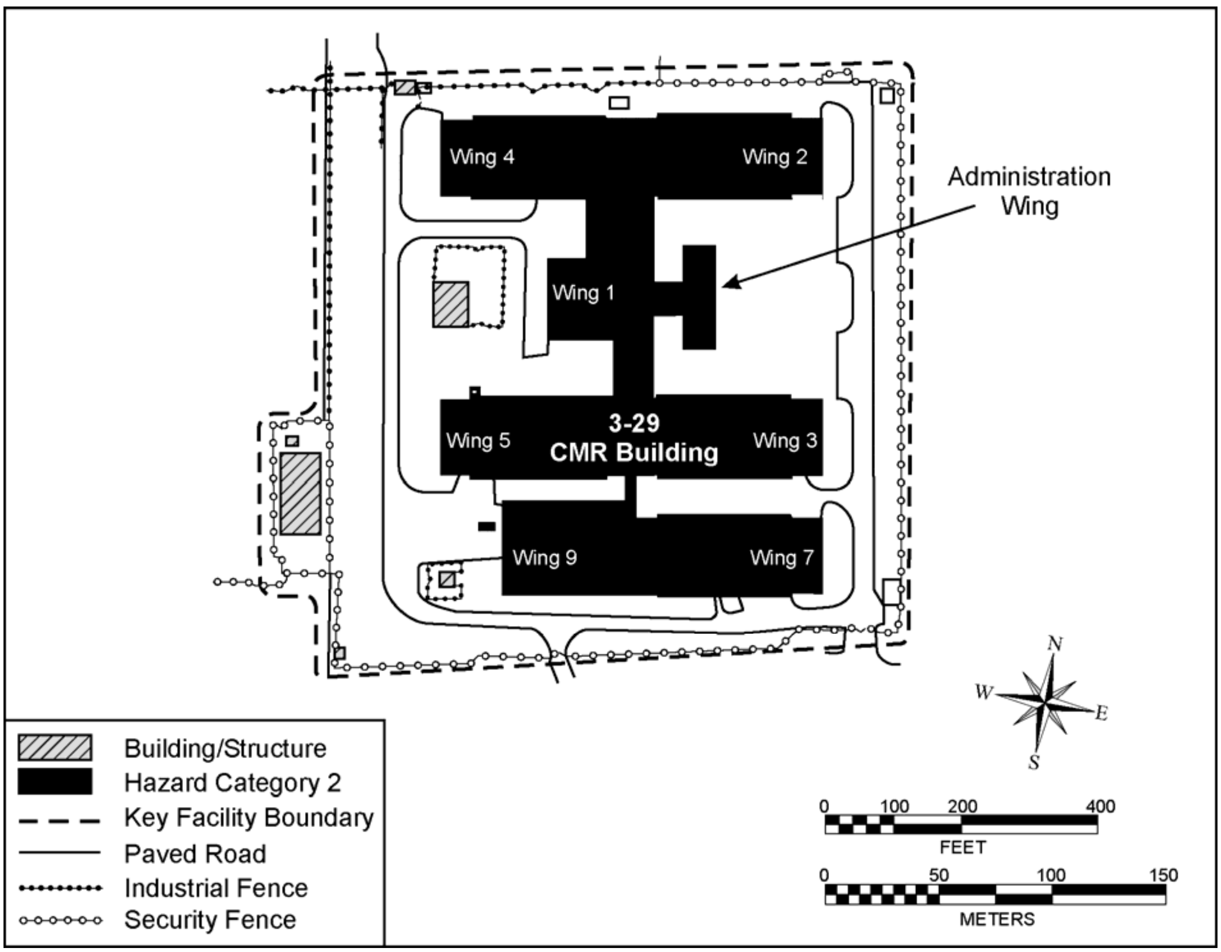

Figure 2–2 Chemistry and Metallurgy Research Building Schematic

2.2.3 Laboratories (Wings 2, 3, 4, 5, and 7)

Each CMR Building wing consists of a basement and a first and second floor. Laboratory Wings 2, 3, 4, 5, and 7 consist of laboratory modules, passageways, office space, change rooms, and electrical and ventilation equipment rooms separated by interior walls. Change rooms are located at the first floor entrance to each wing. Radiological laboratory modules are located in the center of the first floor of the associated wing. Office spaces are typically located outside the laboratory modules, separated by passageways. Filter towers, which contain ventilation and electrical equipment rooms, are located at the end of each wing, opposite the spinal corridor. A large ventilation equipment room is located on the second floor of each wing, adjoining the spinal corridor. Radiological laboratories contain gloveboxes (enclosed stainless steel or painted metal boxes with protective gloves that facilitate the safe handling of hazardous materials) and hoods required for individual processes. A radioactive liquid waste drainline system routes liquid waste from CMR Building laboratories to the existing RLWTF in TA-50. Wings 5 and 7 are currently being operated at reduced levels due to safety and seismic concerns (that is, radiological safety in the event of an earthquake that would cause structural damage to the building). Wings 2 and 3 are shut down to minimize risks related to seismic concerns and are currently undergoing hazard reduction activities. Hazard reduction activities include removal of laboratory hoods, cabinets, and miscellaneous equipment with the goal of reducing the wing inventory to less than 200 plutonium-239-equivalent grams; it does not include removal of gloveboxes or equipment and ventilation systems connected to gloveboxes. Hazard reduction in Wing 4 has been completed. There is no active decontamination or decommissioning work being done at the CMR Building.

2.2.4 Hot Cells (Wing 9)

Wing 9 consists of office spaces, change rooms, hydraulic plant spaces, laboratories, hot cells, and associated operating areas, a radioactive material transfer area, a machine shop, and floor well storage. Typically, utility service sources are located in the attic, with service piping or conduit dropping down to the serviced spaces.

Hot cell operations include transfer of materials between the high-bay area and the hot cell corridors; loading and unloading of radioactive materials or sources from shipping or storage casks; unpackaging and packaging of radioactive materials, sources, or wastes; inspections; remote machining operations; remote welding operations; remote sample preparation; chemical processing; mechanical testing; or any similar remote-handling operation. These operations also include maintenance and setup activities associated with the hot cells and corridors.

2.3 Chemistry and Metallurgy Research Capabilities

The operational CMR capabilities at LANL involve work with both radioactive and nonradioactive substances. Work involving radioactive material (including uranium-235, depleted uranium, thorium-232, plutonium-238, plutonium-239, and americium-241) is performed inside specialized ventilation hoods, hot cells, and gloveboxes. Chemicals such as various acids, bases, and organic compounds are used in small quantities, generally in preparation of radioactive materials for processing or analysis.

The 1999 *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE 1999a) described ongoing CMR Building capabilities at the time it was issued. This description was updated in the *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (*CMRR EIS*) (DOE 2003b) and the 2008 *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (2008 *LANL SWEIS*) (DOE 2008a). Some of the capabilities described in these documents are no longer performed at the CMR Building. The principal capabilities currently performed at the CMR Building are described in the following paragraphs.

2.3.1 Analytical Chemistry and Materials Characterization

AC capabilities involve the study, evaluation, and analysis of radioactive materials. In general terms, AC is that branch of chemistry that deals with the separation, identification, and determination of the components in a sample. MC relates to the measurement of basic material properties and the changes in those properties as a function of temperature, pressure, or other factors. These AC and MC activities support research and development associated with various nuclear materials programs, many of which are performed at other LANL locations on behalf of or in support of other sites across the DOE complex (such as Lawrence Livermore National Laboratory, the Savannah River Site, and Sandia National Laboratories).

Examples of sample characterization activities include assay and determination of isotopic ratios of plutonium, uranium, and other radioactive elements and identification of major and trace elements in materials, the content of gases, constituents at the surfaces of various materials, and methods to characterize waste constituents in hazardous and radioactive materials. A full suite of MC capabilities was previously performed in the CMR Building, but now only a small subset of those activities is performed in Wings 5 and 7. If the decision is made to construct a new CMRR-NF, the full suite of MC capabilities would be re-established.

2.3.2 Destructive and Nondestructive Analysis

Destructive and nondestructive analysis employs AC; metallographic analysis; measurement on the basis of alpha, neutron, or gamma radiation from an item; and other measurement techniques. These activities are used in support of product quality for weapons and nuclear fuels programs, component surveillance, nuclear materials control and accountability, SNM standards development, research and development, environmental restoration, and waste treatment and disposal.

2.3.3 Actinide Research and Processing

Actinide research and processing at the CMR Building typically involve small quantities of solid and aqueous solutions. However, any research involving highly radioactive materials or remote handling may use the hot cells in Wing 9 of the CMR Building to minimize personnel exposure to radiation or other hazardous materials. CMR actinide research and processing may include separation of medical isotopes from targets, research and development of nuclear fuel, processing of neutron sources, and research into the characteristics of materials, including the behavior or characteristics of materials in extreme environments, such as high temperature or pressure.

2.4 Proposed Chemistry and Metallurgy Research Building Replacement Project Capabilities

This section presents the portion of the operational capabilities proposed to be included within the CMRR-NF and identifies those capabilities that have been housed within the CMR Building that are not planned to carry over into the CMRR-NF. Conversely, if the Continued Use of CMR Building Alternative is selected for implementation, these operational capabilities would be subject to progressive limitations based on the suitability of the structure to continue to safely shelter them, new programmatic decisions, and DOE and NNSA mission support needs. Pit production does not take place at the CMR Building and would not take place in the CMRR-NF.

2.4.1 Analytical Chemistry and Materials Characterization Capabilities

These capabilities include the facility space and equipment needed to support nuclear operations, spectroscopic and analytical instrumentation, nonnuclear space and offices, and nonnuclear laboratory space for staging and testing equipment and experimental work with stable (nonradioactive) materials. Most of these capabilities are found at the CMR Building, although a subset of AC and MC capabilities reside in other locations at LANL. This project element includes relocating all mission-essential CMR Building AC and MC capabilities and consolidating other AC and MC capabilities at LANL in the CMRR-NF, where possible, to provide efficient and effective mission support.

AC capabilities at LANL provide the definitive analysis for the references and standards of SNM. They are the reference methods for secondary or field measurements and are used to prepare and certify calibration standards. The national security applications include nondestructive and destructive analysis, standards for international and domestic safeguards measurements, and working reference standards for nuclear forensics and detection in the field.

LANL represents and maintains state-of-the-art MC capabilities. MC includes a variety of sample preparation and characterization methods to evaluate the microstructures and properties of SNM, including plutonium and uranium metal and oxides and mixed-oxide and nitride nuclear fuels. These capabilities are used to develop novel techniques for SNM preparation and characterization; design and execute plutonium alloy castings; investigate plutonium alloy aging effects on material properties; and provide experimental data that are used to validate process and performance models.

LANL is the only site in the United States that can support various plutonium-related national security programs because it maintains both the equipment and facilities to execute such programs and the comprehensive supporting capabilities, including AC and MC, and technical expertise. The Modified CMRR-NF would have the key facility infrastructure, gloveboxes, hoods, and analytical instrumentation for handling and analyzing SNM safely, and continuing to provide these capabilities requires material storage vault space.

At the present time, a set of MC capabilities is provided within the TA-55 Plutonium Facility to (1) streamline material processes associated with pit fabrication and pit surveillance programs and (2) minimize security costs and lost time associated with shipping large SNM items to the CMR Building from the TA-55 Plutonium Facility. An appropriate amount of space and equipment for the purpose of relocating stockpile stewardship AC and MC research capabilities within the TA-55 Plutonium Facility to the new CMRR-NF would be provided as part of the proposed action. These capabilities would be sized consistent with mission capacity requirements.

2.4.2 Special Nuclear Material Storage Capability

A SNM storage capability for 6,000 kilograms of plutonium-239-equivalent would be provided at CMRR-NF. The CMRR-NF storage capability would be designed to replace the storage vault at the CMR Building. The SNM storage requirements would be developed in conjunction with, and would be integrated into, a long-term LANL SNM storage strategy.

2.4.3 Nuclear Materials Operational Capabilities and Space for non–Los Alamos National Laboratory Users

This operational capability would provide research laboratory space for non-LANL users. Research laboratory space within the CMRR-NF would be used by other NNSA nuclear sites to support LANL missions related to defense programs.

2.4.4 Existing Chemistry and Metallurgy Research Capabilities and Activities Not Proposed for Inclusion within the New Chemistry and Metallurgy Research Building Replacement Nuclear Facility Project

Not all capabilities either previously or currently performed within the existing CMR Building at LANL would be transferred to the new CMRR Facility. Such capabilities include the Wing 9 hot cell operations, medical isotope production, uranium production and surveillance activities, nonproliferation training, and other capabilities that are available at DOE or NNSA sites other than LANL. These capabilities could cease to exist at LANL when the CMR Building becomes nonoperational.

2.5 Description of Actions Taken to Date Related to the Chemistry and Metallurgy Research Building Replacement Project

As envisioned in the 2004 ROD associated with the 2003 *CMRR EIS*, an administrative and support function building, now referred to as the Radiological Laboratory/Utility/Office Building (RLUOB), has been constructed in the southeastern corner of TA-55 (see **Figure 2–3**). The RLUOB equipment installation phase is under way, and the building is scheduled to be occupied by workers beginning in October 2011. The operation of RLUOB would be consistent across all three of the alternatives analyzed in this *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS).*

Figure 2–3 Radiological Laboratory/Utility/Office Building in Technical Area 55

RLUOB contains about 208,000 square feet (19,000 square meters) of floor space distributed over several stories, located on a 4.0-acre (1.6-hectare) site. One story and, due to the slope of the building site, part of another story are below ground, and three stories are above ground. RLUOB provides office space for about 400 staff. A large number of the workers with offices in RLUOB would work in the CMRR-NF. RLUOB includes worker training classrooms and facilities and CMRR Facility incident command and emergency response capabilities. In addition to office space, RLUOB contains 19,500 square feet (1,800 square meters) of radiological laboratory space capable of handling less than Hazard Category 3 radioactive materials per DOE-STD-1027. RLUOB was classified by the preliminary hazard analysis as a low-hazard, Performance Category 1[2] (PC-1) facility; however, the structure was designated to be designed and constructed at the PC-2 level based on the prudent management practice to provide defense in depth for safety and to maintain radiation doses as low as reasonably achievable.

A separate structure, the Central Utility Building, houses utility equipment for power, hot water, sanitary sewer, potable water, nonpotable water, de-ionized water, chilled water, heat (natural gas), compressed air, specialty gases, the fuel oil system, and backup power supply of the proposed CMRR Facility in TA-55. The structure is two stories tall with a basement. Although this structure was sized to support both RLUOB and the CMRR-NF, it has not been fully equipped to support both buildings. Equipment has been included to support RLUOB and additional equipment would be added if the decision is made to construct the CMRR-NF at the TA-55 site. The 25,000 square feet (2,300 square meters) of floor space that make up the Central Utility Building are included in the total estimated square footage of RLUOB. RLUOB is separated from the Central Utility Building by a 2-hour fire-rated construction of two concrete walls separated by a 12-inch airspace.

RLUOB is anticipated to be awarded a Silver Certification under the U.S. Green Building Council Leadership in Energy and Environmental Design® for New Construction and Major Renovations (LEED-NC) rating system. In 2010, NNSA awarded the CMRR Project its Pollution Prevention Award for Best in Class for Sustainable Design/Green Building. Later in 2010, the project received the DOE EStar Environmental Sustainability Award in Recognition of Exemplary Environmental Sustainability Projects and Practices. The NNSA and DOE awards were presented for RLUOB integrated planning, design, procurement, and construction. The CMRR-NF is also registered under the LEED-NC rating system, with many of the same credits anticipated to be achievable. Lessons learned from design and construction of RLUOB from a LEED perspective are being incorporated into the Modified CMRR-NF design.

At the time RLUOB was being constructed, the adjacent area proposed for the CMRR-NF was also excavated in support of geologic characterization of the CMRR-NF site and seismic mapping, and was subsequently used as a laydown area for RLUOB construction equipment and materials. As a result, most of the proposed site of the CMRR-NF has been excavated down to about 30 feet (9.1 meters) already. The site is now roughly level with Pajarito Road, as shown in **Figure 2–4**, and would need to be further excavated if the decision is made to proceed with construction of the CMRR-NF (either the 2004 CMRR-NF or the Modified CMRR-NF) in TA-55.

In support of the CMRR Project, a permanent paved vehicle parking lot has been built in TA-50 across Pajarito Road from RLUOB. The parking lot currently contains construction trailers associated with the CMRR Project and provides parking for individuals working on the project and in nearby technical areas.

[2] Each structure, system, and component in a DOE facility is assigned to one of five performance categories (PCs) depending upon its safety importance. For PC-1 structures, systems, and components, the primary concern is preventing major structural damage, collapse, or other failure that would endanger personnel (life safety). A PC-2 structure, system, and component designation is meant to ensure the operability of essential facilities or to prevent physical injury to in-facility workers. The PC-2 structures, systems, and components should result in limited structural damage from design-basis natural phenomena events (such as an earthquake) to ensure minimal interruption of facility operation and repair following the event (DOE 2002c).

Figure 2–4 Proposed Chemistry and Metallurgy Research Building Replacement Nuclear Facility Site in Technical Area 55

2.6 Description of the Alternatives

As previously identified, this *CMRR-NF SEIS* analyzes the potential environmental impacts of three alternatives. This section of Chapter 2 presents detailed descriptions of each of the three alternatives, identifying actions that would be common across one or more of the alternatives and actions that would be different or additive across the alternatives.

No Action Alternative (2004 CMRR-NF): Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD, with two additional project activities (management of excavated soils and tuff and a new electrical substation) analyzed in the 2008 *LANL SWEIS*. Based on new information learned since 2004, the 2004 CMRR-NF would not meet the standards for a PC-3[3] structure as required to safely conduct the full suite of NNSA AC and MC mission work. Therefore, the 2004 CMRR-NF would not be constructed.

Modified CMRR-NF Alternative: Construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, with certain design and construction modifications and additional support functions that address seismic safety, infrastructure enhancements, nuclear safety-basis requirements, and sustainable design principles (sustainable development – see glossary). This alternative has two construction options: the Deep Excavation Option and the Shallow Excavation Option. All necessary AC and MC operations could be performed as required to safely conduct the full suite of NNSA mission work. The

[3] *Each structure, system, and component in a DOE facility is assigned to one of five performance categories depending upon its safety importance. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002c).*

Modified CMRR-NF embodies the maturation of the 2004 CMRR-NF design to meet all safety standards and operational requirements.

Continued Use of CMR Building Alternative: Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the CMR Building at TA-3, with normal maintenance and component replacements at the level needed to sustain programmatic operations for as long as feasible. Certain AC and MC operations would be restricted. Administrative and radiological laboratory operations would take place in RLUOB at TA-55.

2.6.1 No Action Alternative

The 2004 CMRR-NF design would not meet the standards for a PC-3 facility and a PC-3 facility is required to safely conduct all of the AC and MC work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's stated purpose and need for action to provide a full suite of AC and MC operations at LANL. The following description of the No Action Alternative (construction and operation of the 2004 CMRR-NF within TA-55 as described in the 2003 *CMRR EIS* and selected in the 2004 *CMRR EIS* ROD [69 FR 6967]) is provided as a basis for comparison to other alternatives. The 2004 CMRR-NF was conceived to be constructed as one part of a two-building CMRR Facility; as discussed in Section 2.5, RLUOB has already been constructed at the southeastern corner of TA-55. **Figure 2–5** shows the land areas that have previously been analyzed in support of CMRR Facility construction. The 2004 CMRR-NF would have housed Hazard Category 2 and 3 operations, requiring the entire facility to be designed as a Hazard Category 2 nuclear facility.

The 2004 CMRR-NF would have had a building areal footprint measuring about 300 by 210 feet (91 by 64 meters) and would have comprised approximately 200,000 square feet (18,600 square meters) of solid floor space divided between two stories, and would also have included one steel grating "floor" where mechanical and other support systems would have been located and one small roof cupola enclosing the elevator equipment. The 2004 CMRR-NF would have had an aboveground portion (consisting of a single story) that would have housed Hazard Category 3 laboratories and a belowground portion (consisting of a single story) that would have housed Hazard Category 2 laboratories and extended an average of 50 feet (15 meters) below ground. The total amount of laboratory workspace where mission-related AC and MC operations would be performed was not stated in the *CMRR EIS*. In 2004, the estimate of 22,500 square feet (2,100 square meters) was provided as a result of integrated nuclear planning activities (DOE 2005b). Fire protection systems for the 2004 CMRR-NF would have been developed and integrated with the existing exterior TA-55 site-wide fire protection water storage tanks and services.

As discussed in detail in Chapter 3, Section 3.5.1.4, of this *CMRR-NF SEIS*, a comprehensive update to the LANL seismic hazard analysis was completed in June 2007, providing a better understanding of the seismic behavior of the design-basis earthquake (LANL 2007a). The updated report used more-recent field study data, most notably from the proposed CMRR-NF site, and the application of the most current seismic analysis methods, to update the seismic source model, ground motion attenuation relationships, dynamic properties of the subsurface (primarily the Bandelier Tuff) beneath LANL, as well as the probabilistic seismic hazard, horizontal and vertical hazards, and design-basis earthquake for LANL. Based on this updated seismic hazard analysis, the geotechnical properties of the bedrock (that is, the structural stability of the rock) at the proposed CMRR-NF location have been further evaluated with respect to the proposed CMRR-NF structure and the associated depth of excavation (Kleinfelder 2007a, 2007b). Using this information, it was determined that a design-basis earthquake would result in severe damage to the 2004 CMRR-NF if it were constructed as originally envisioned and described and analyzed in the *CMRR EIS*.

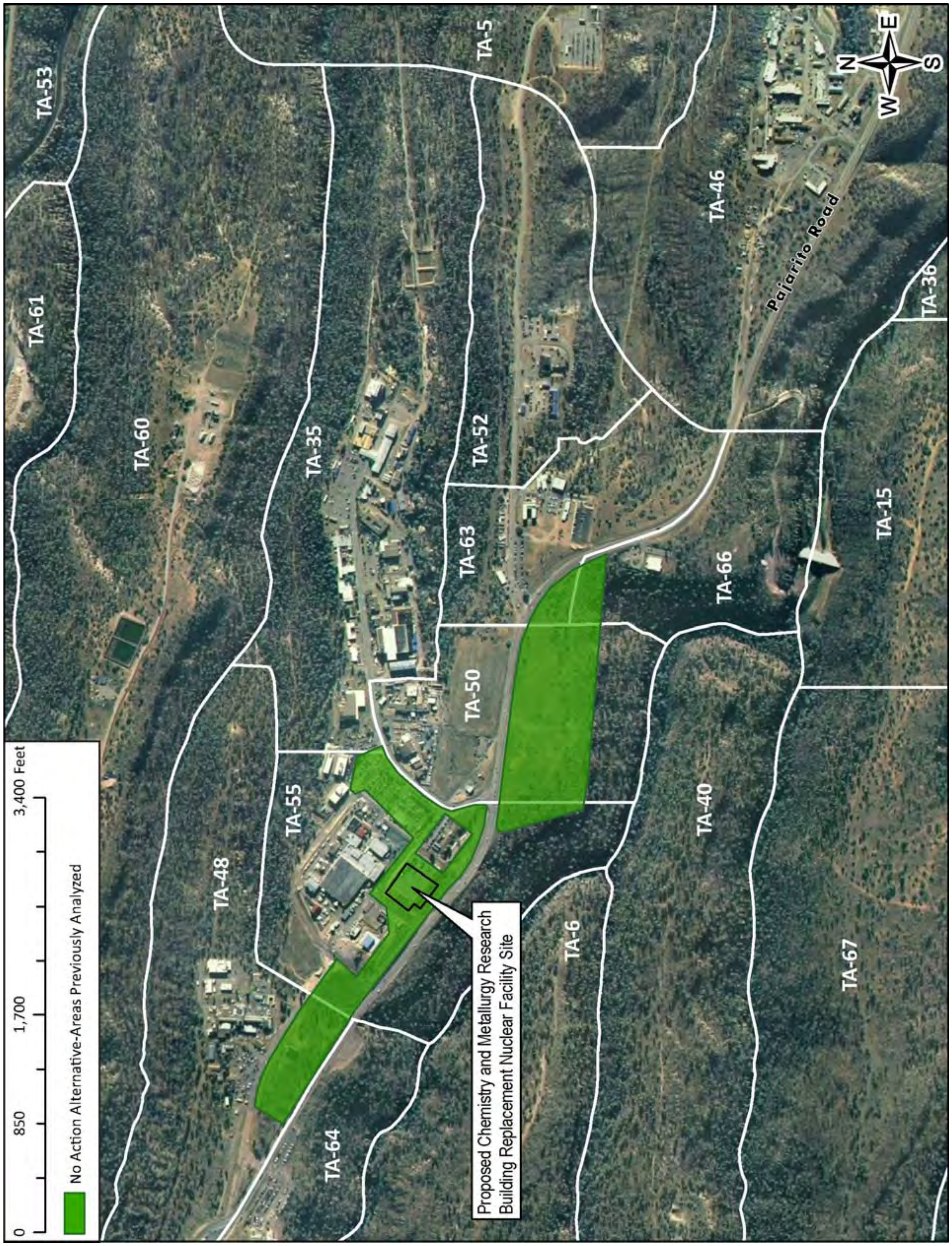

Figure 2–5 No Action Alternative Areas

General requirements necessary for public and worker safety and resulting design criteria are strongly driven by the requirements of "Nuclear Safety Management" (10 CFR Part 830). Since the conceptual design analyzed in the *CMRR EIS* was developed, the maturity of applying the Nuclear Safety Management requirements, and the maturity of understanding seismic impact analysis have led to concerns related to the overall conceptual design parameters used for the 2004 CMRR-NF in the *CMRR EIS*. As discussed in the *CMRR EIS*, the CMRR-NF would need to be safety class PC-3 for seismic events. Because of the updated and refined seismic design criteria, the 2004 CMRR-NF design would not meet today's PC-3 requirements.

A revised accident analysis was performed for the 2004 CMRR-NF in this *CMRR-NF SEIS* as discussed in Chapter 4, Section 4.1. This revised accident analysis determined that the human health risks to workers and the public, should the 2004 CMRR-NF be constructed and operated as originally envisioned, would be unacceptable in the event of an actual design-basis earthquake event. Such an earthquake could be expected to occur every 100 to 10,000 years. The damaged 2004 CMRR-NF building could provide an open pathway for public and worker exposure to radioactive materials being stored or used in the facility at the time of the earthquake.

Concerns about the ability of the 2004 CMRR-NF design to survive a design-basis earthquake have led to the CMRR-NF being redesigned as described in the Modified CMRR-NF Alternative. Updates to the construction parameters have been completed per requirements of the seismic probabilistic hazard curve, and the safety analysis has matured greatly beyond that performed in the preliminary hazards analysis on which the *CMRR EIS* was based. Because of these updates and maturity of the facility design, the Modified CMRR-NF now has a more complete set of safety controls and definitive design criteria. The safety control set is the integrated set of engineered structures, systems, and components that are incorporated into a facility's design to control risks associated with internal and external events that could affect facility operation. It includes systems such as the ventilation system, fire suppression system, and radiological monitoring and alarm system. For a facility that incorporates the safety control set to be designed, constructed and operated, to meet the updated seismic design requirements, additional floor space is required to house the major systems. The Modified CMRR-NF structure would still be required to meet the same functional requirement of PC-3 design today as was described in the *CMRR EIS* and the latest preliminary hazards analysis. The Modified CMRR-NF would be designed to survive a design-basis earthquake (for example, with much thicker walls and more reinforcing steel) without a significant release of radioactive materials to the environment and this alternative is being fully evaluated in this *CMRR-NF SEIS* as discussed in Section 2.6.2.

2.6.2 Modified CMRR-NF Alternative

2.6.2.1 Construction Activities Associated with the Modified CMRR-NF

Nuclear safety requirements stemming from 10 CFR Part 830, "Nuclear Safety Management," mandate a comprehensive analysis of identified hazards and postulated accidents to protect the public, workers, and the environment; this information is used for both developing the engineered designs of facilities and equipment and identifying administrative work requirements. This safety analysis and integration process is an iterative process that would continue as the CMRR-NF design evolves, as the CMRR-NF is constructed, and as operations are conducted. In 2007, the probabilistic seismic hazard analysis (LANL 2007a) for LANL was updated, providing a better understanding of the probable seismic behavior of various geological material layers occurring at LANL and, therefore, a better understanding of the structural building requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake event without major damage. In 2009, the 2007 probabilistic seismic hazard analysis was augmented with a study that provided updated horizontal and vertical design ground accelerations for the proposed CMRR Facility site in TA-55 (LANL 2009b). These updated factors were lower than the factors included in the

2007 analysis (0.47 *g* [gravitational acceleration] compared to 0.52 *g* for peak horizontal ground acceleration and 0.51 *g* compared to 0.6 *g* for peak vertical ground acceleration). These data were factored into the design of the proposed Modified CMRR-NF and do not change any of the analyses presented in this *Final CMRR-NF SEIS*.

In addition to the probabilistic seismic hazard analysis, other seismic and geologic studies have been conducted for the CMRR Project (LANL 2005, 2007b, 2007c, 2008; Kleinfelder 2007a, 2007b, 2010a). To meet the seismic protection design requirements resulting from the probabilistic seismic hazard analysis and the other studies for what is referred to as the "design-basis earthquake," together with the nuclear safety requirements identified through iterative planning processes, it was determined that the 2004 CMRR-NF would need to be designed with various structural and equipment modifications to allow it to fully meet the operational requirements set forth by NNSA for the facility.

The Modified CMRR-NF would require additional structural and reinforcing concrete and steel for the construction of the building's walls, floors, and roof than was estimated and analyzed in the 2003 *CMRR EIS* for the structure as it was conceived of then. These portions of the Modified CMRR-NF would have to be thicker and stronger, with more bracing than previously estimated. Also, most of the worker access areas for building systems and equipment access and repairs would be constructed with solid floors rather than steel grating flooring; fire protection water storage tanks would be located inside the Modified CMRR-NF rather than using existing exterior water storage tanks in TA-55 (the large size and weight of these tanks require additional structural considerations by themselves); various utilities would be installed with added protection measures and bracing; and other seismic protection and safety measures would be incorporated into the building design and the installation requirements for the equipment. (See **Figure 2–6**, photo of RLUOB, which was constructed with some of the same seismic protections with regard to using solid floors rather than steel grating flooring in the worker access areas for building systems and equipment and with regard to equipment bracing and other protective installation measures.) These structural modifications resulted in an overall increase in the size and height of the Modified CMRR-NF. The footprint of the Modified CMRR-NF is larger than that of the 2004 CMRR-NF due to space required for engineered safety systems and equipment, such as an increase in the size and quantity of heating, ventilation, and air conditioning ductwork, addition of safety-class fire suppression equipment, plus the associated electrical equipment. This equipment added 42 feet (13 meters) to the building in one dimension. The addition of 94 feet (29 meters) in the other dimension was to provide corridor space for movement of equipment, to avoid interference between systems (mechanical, electrical, piping), and to allow enough space for maintenance, repair and inspection, and mission support activities (maintenance shop, waste management areas, and radiological protection areas). The increased dimensions noted above also included space required for concrete wall thicknesses for seismic stiffening. **Table 2–1** shows the estimated construction requirements associated with the Modified CMRR-NF.

Among the concerns identified in the seismic and geologic studies is the presence of a poorly welded tuff layer of volcanic ash material beneath the proposed CMRR-NF construction site. This layer, identified as the lower portion of Bandelier Tuff, Unit 3, underlies the proposed facility location in TA-55 and is widespread across LANL. Either the Modified CMRR-NF would need to be constructed at a sufficient distance above this poorly welded tuff layer to ensure the performance of the structure during a seismic event, or the layer would need to be excavated and backfilled with an engineered material (for example, concrete) to provide a stable medium on which to build the structure.

Figure 2–6 Utility System Floorspace in the Radiological Laboratory/Utility/Office Building

Two options are being considered for construction of the Modified CMRR-NF. The Deep Excavation Option would involve excavating through a layer of poorly welded tuff, then partially backfilling the excavation with a low-slump concrete. The 10-foot-thick (3-meter-thick) concrete basemat on which the building foundation would rest would be constructed on top of the concrete backfill. The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basemat well above that layer in the overlying stable geologic layer, which would act in a raft-like fashion to allow the building to "float" over the poorly welded tuff layer.

The original building elevation (as defined by the bottom of the basemat) considered for the CMRR-NF was located sufficiently shallow such that extensive excavation below the building basemat would not be required and would not extend into the poorly welded tuff layer. This design held through the completion of the conceptual and preliminary design phases of the project. This building location was reviewed by a number of organizations external to the project team, including NNSA and the Defense Nuclear Facilities Safety Board.

When the probabilistic seismic hazard analysis was published in 2007, the building design was adjusted to increase both the thickness in certain floors and the thickness of the basemat. The end result was the overall building height measured from the bottom of the basemat to the top of the roof was now larger. In response to these changes, the building excavation was deepened to maintain the aboveground height of the building at the same elevation as the previous design. This design change would have resulted in the penetration of the poorly welded tuff layer, requiring additional excavation, and resulted in the Deep Excavation Option.

Table 2–1 Summary of Chemistry and Metallurgy Research Building Replacement Nuclear Facility Project Construction Requirements

Building/Material Usage	***Modified CMRR-NF Alternative Deep Excavation Option*** [a]	***Modified CMRR-NF Alternative Shallow Excavation Option*** [a]
Land – permanent changes (acres)	12	12
Land – temporary changes (acres)	116 to 135	96 to 115
Building – length by width (feet)	342 by 304	342 by 304
Building size (square feet) [b]	407,600	407,600
Nominal excavation depth (feet)	130	58
Remaining material to be excavated (cubic yards) [c]	545,000	236,000
Water (million gallons per year)	4.6	3.8
Electricity (megawatt-hours per year) [d]	31,000	31,000
Propane (gallons per year for 3 to 6 years)	19,200	19,200
Concrete (cubic yards)	150,000 (structural) 250,000 (low-slump)	150,000 (structural)
Steel (tons)	560 (structural) 18,000 (foundation & reinforcing)	560 (structural) 18,000 (foundation & reinforcing)
Peak construction workers	790	790
Average number of construction workers	420	410
Estimated number of offsite truck trips [e]	38,000	29,000
Nonhazardous waste (metric tons)	2,600	2,600
Construction period (years)	9	9
Transition from CMR Building complete	2023	2023

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The Deep and Shallow Excavation Options refer to options to build the Modified CMRR-NF with a nominal 130-foot excavation or a nominal 58-foot excavation, respectively.

[b] Building size is expressed in gross square feet, including the width of the walls.

[c] Includes tuff remaining to be excavated for the CMRR-NF building and the tunnels that would connect the CMRR-NF to RLUOB and the TA-55 Plutonium Facility. Approximately 30 feet of material have already been excavated from the proposed CMRR-NF site in TA-55 as part of the previous geological investigation of the site.

[d] Annual site infrastructure estimates for electricity use round to 31,000 megawatt-hours for both the Deep and Shallow Excavation construction options. However, the Deep Excavation Option is expected to require more electricity over the life of the alternative to support the creation of additional concrete for the layer of low-slump concrete fill.

[e] Offsite truck trips include the delivery of construction equipment, construction materials, and building equipment and supplies to the building site over the estimated 9-year life of the construction project.

Note: To convert acres to hectares, multiply by 0.404685; feet to meters, by 0.3048; gallons to liters, by 3.7854; cubic yards to cubic meters, by 0.76455; tons to metric tons, by 0.9072.

Source: LANL 2011a:Data Call Tables, 002, 003, 026.

In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option.

The Modified CMRR-NF would have a building footprint measuring about 342 by 304 feet (104 by 93 meters) and would comprise approximately 408,000 gross square feet (37,900 gross square meters), 344,000 net square feet (32,000 net square meters), of floor space divided between four floors plus a partial roof level compared to the 200,000 gross square feet (18,600 gross square meters) estimated in the *CMRR EIS*. One of these floors would be devoted to utility system floor space and, while the square footage of this floor would add to the total building square footage amount because of the hard floor, it would not be occupied full time by building workers. The lowest building floor or level would be devoted to the fire suppression water storage tanks, other facility support equipment, and maintenance areas. This floor would not be occupied full time by building workers. Inclusion of a dedicated water source for fire protection within the building assists in meeting nuclear safety and design requirements. The other two building levels would be occupied by the CMRR-NF workers and AC and MC operations in dedicated laboratories, building systems, the vault, and other direct laboratory support functions such as waste management. The total amount of laboratory workspace where mission-related AC and MC operations would be performed would be the same as estimated for the 2004 CMRR-NF, namely, about 22,500 square feet (2,100 square meters). The maximum amount of radioactive materials that could be in the laboratories at any given time has been restricted to no more than 300 kilograms of plutonium-239-equivalent SNM, the same as originally planned for the 2004 CMRR-NF. The total quantity of plutonium-239-equivalent SNM that would be permitted in the facility (including short-term and long-term storage vaults) would also be the same as estimated for the 2004 CMRR-NF, 6,000 kilograms.

The new structure would be designed and constructed in accordance with the geotechnical analyses and design recommendations provided in the geotechnical reports (Kleinfelder 2007a, 2010a, 2010b). These reports have concluded that the substrate is sufficiently strong to withstand the weight of the proposed structure, such that intolerable amounts of seismically and nonseismically induced settlement and lateral shifting of the foundation would not occur. The seismic weight of the proposed building is about 490 million pounds (220 million kilograms) under the Shallow Excavation Option.[4] The total area, or footprint, of the base slab foundation is 101,000 square feet (9,400 square meters). The load of the building would be distributed over the area of the slab; therefore, about 490 million pounds (220 million kilograms) per 101,000 square feet (9,400 square meters) results in a bearing pressure of about 4,850 pounds per square foot (23,700 kilograms per square meter) (LANL 2011a:LANL Site, 010). The geotechnical report (Kleinfelder 2007a) indicates that the allowable bearing pressure of the soil in the level where the Shallow Excavation Option would sit is 20,000 pounds per square foot (97,600 kilograms per square meter). This allowable bearing pressure of the soil is much greater than the pressure due to the building. Final geotechnical and structural design calculations would also be completed upon completion of the final building design.

NNSA would construct the Modified CMRR-NF in TA-55 next to the already constructed RLUOB (see Figure 2–4). The structure would be constructed to meet or exceed current International Building Code standards; LEED certification initiatives; and internal DOE requirements for nuclear facilities, fire protection, site seismic design, and security such that it could be operated to fully meet DOE and NNSA mission-support work requirements for AC and MC operations. Sustainable design considerations were integrated early in the CMRR Project planning and design phases, and these would be maintained throughout the procurement and construction process for the Modified CMRR-NF to ensure the

[4] *Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option.*

construction and operation of high-performance sustainable buildings. Consistent with DOE Order 413.3B (*Program and Project Management for the Acquisition of Capital Assets*) and the *LANL Sustainable Design Guide* (LANL 2002), sustainable facility designs would include features that would allow the structures to be constructed and operated with reduced electricity and water use. Optimized energy performance would be achieved by using highly reflective roofing materials, energy-efficient equipment, specialized building envelope design and materials, and lighting controls. Low-flow fixtures would reduce water use over the life of the building. Interior and exterior building materials would include recycled content materials and local/regional materials. Native plant species would be used for landscaping. Only temporary irrigation would be used to establish new landscaping. Various control methods would be used to improve indoor air quality, including heating, ventilating, and air conditioning system protection to control dust and debris and use of products (for example, paints, furniture, adhesives, and sealants) that emit low amounts of volatile organic compounds. Permanent exterior safety and security lighting at the buildings and structures, as well as along the facility's fenced boundary, would be designed so that it is directed toward the facility and away from roads and canyons as much as possible. Certification under the LEED-NC rating system would be pursued.

NNSA would continue to operate and maintain the existing CMR Building on a smaller scale, with reduced operations and limited maintenance, during the construction phase and until all necessary functions are moved (transitioned) or otherwise cease. Based on the facility hazard categorization and the safeguards and security requirements, the Modified CMRR-NF would be a Hazard Category 2, Security Category I building, as the CMRR-NF was originally envisioned to be in 2003, and as analyzed in the *CMRR EIS*. As was planned for the 2004 CMRR-NF, the Modified CMRR-NF would be linked to the newly constructed RLUOB via an underground tunnel with a separate security station, and another underground tunnel would be constructed to connect the TA-55 Plutonium Facility with the Modified CMRR-NF. Vaults for long-term and short-term storage of SNM would be located within the footprint of the Modified CMRR-NF.

In general, construction of the Modified CMRR-NF would be accomplished using the same methods of construction, materials, and types of construction equipment originally planned for the 2004 CMRR-NF. However, as already noted, the structure would be stronger, with thicker walls, floors, roof, and other components. As previously mentioned, two different construction options are being considered for the Modified CMRR-NF to address the previously discussed poorly welded tuff layer present beneath the proposed building site: the Deep Excavation Option and Shallow Excavation Option. These two construction options are described in more detail in the following paragraphs.

The Deep Excavation Option would involve excavating the identified footprint another 100 feet (30 meters) to a nominal depth of 130 feet (40 meters) below ground, thus removing the poorly welded tuff layer (see **Figure 2–7**). The resulting excavated site would then be backfilled up to about 60 feet (18 meters) with low-slump concrete. A basemat foundation for the Modified CMRR-NF under the Deep Excavation Option would be constructed directly on this low-slump concrete layer once it has sufficiently cured (see Figure 2–7). The basemat provides additional structural support. The building would have three stories located below ground and one above ground on the northwest. Due to site sloping, there would be two stories below ground and two stories and a partial roof level above ground on the southeast. The aboveground portion would rise approximately 53 feet (16 meters) above ground at its highest point in the northeastern corner.

An estimated 720,000 cubic yards (550,000 cubic meters) of soil and tuff would be removed from the excavation of the Modified CMRR-NF and the connecting tunnels under the Deep Excavation Option. Approximately 175,000 cubic yards (134,000 cubic meters) of soil and tuff has already been removed from the construction site for geotechnical mapping, and another 545,000 cubic yards (417,000 cubic meters) would need to be removed if the Modified CMRR-NF were built using the Deep Excavation Option.

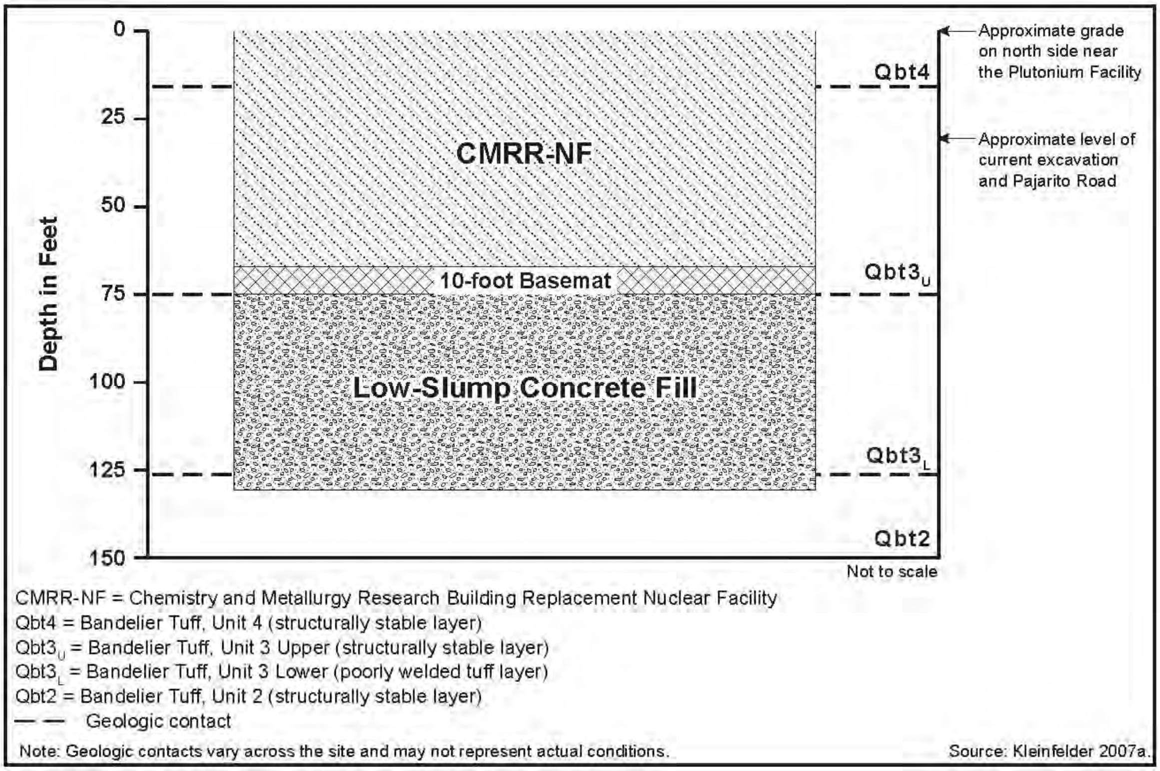

Figure 2–7 Modified CMRR-NF, Deep Excavation Option, Relative to Geologic Stratigraphy

The Shallow Excavation Option would involve much less site excavation than the Deep Excavation Option because the Modified CMRR-NF's base elevation would be located above the poorly welded tuff layer (see **Figure 2–8**). The Shallow Excavation Option would involve excavating the building's footprint an additional 28 feet (8.5 meters) from the current ground level to a nominal depth of 58 feet (18 meters) below ground. A basemat foundation for the Modified CMRR-NF under the Shallow Excavation Option would be constructed directly in the geologic layer overlying the poorly welded tuff layer, about 17 feet (5.2 meters) above the interface with the poorly welded tuff layer. The basemat provides additional structural support. Engineered backfill would be used to partially bury the building. The building would have three stories below ground and one above ground on the northwest side. Due to site sloping, there would be two stories below ground and two stories and a partial roof level above ground on the southeast side.

An estimated 411,000 cubic yards (315,000 cubic meters) of soil and tuff would be removed from the excavation of the CMRR-NF and the connecting tunnels under the Shallow Excavation Option. Approximately 175,000 cubic yards (134,000 cubic meters) of soil has already been removed from the construction site for geotechnical mapping, and another 236,000 cubic yards (180,000 cubic meters) would need to be removed if the Modified CMRR-NF is built using the Shallow Excavation Option.

Under either of the construction options, excavated soil and rock material (spoils) from the Modified CMRR-NF site would be transported by truck to storage areas within LANL in accordance with routine material reuse practices; the spoils would ultimately be beneficially reused. Under the Deep and Shallow Excavation Options, approximately 150,000 cubic yards (115,000 cubic meters) of the material would be reused as fill for other project activities related to CMRR infrastructure and construction support (such as fill for leveling the parking lots and the TA-46/63 and TA-48/55 laydown areas), and the rest (395,000 cubic yards [302,000 cubic meters]) under the Deep Excavation Option and 86,000 cubic yards

[66,000 cubic meters] under the Shallow Excavation Option) would be staged at LANL materials staging areas for future appropriate reuse on other LANL construction and landscaping projects (see discussion below on spoils storage areas). Reuse of this material at LANL would directly offset future needs to purchase and transport fill material from offsite locations because of the limited amount of suitable fill material remaining within existing LANL borrow pits.

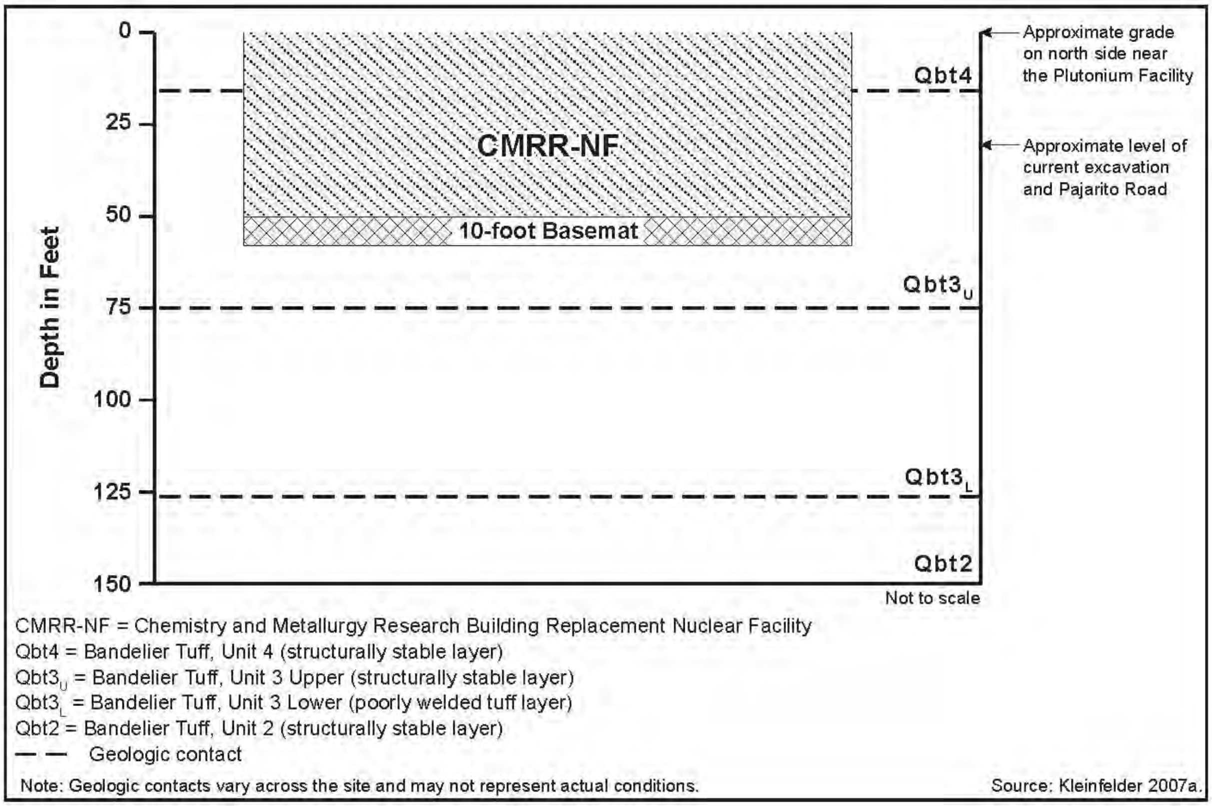

Figure 2–8 Modified CMRR-NF, Shallow Excavation Option, Relative to Geologic Stratigraphy

Because of safety and seismic concerns, additional concrete (including cement and suitable aggregate materials), steel, and other supplies and goods would be needed to construct the stronger Modified CMRR-NF. Under the Deep Excavation Option, it is estimated that an additional 390,000 cubic yards (300,000 cubic meters) of concrete would be needed to build the Modified CMRR-NF beyond that estimated for the 2004 CMRR-NF. The majority of this concrete (250,000 cubic yards [190,000 cubic meters]) would be the low-slump concrete fill upon which the building would be constructed. While the Shallow Excavation Option would not require the low-slump concrete fill included in the Deep Excavation Option, it would still require an additional 140,000 cubic yards (110,000 cubic meters) of concrete compared with the 2004 CMRR-NF estimate. In addition, the Modified CMRR-NF would require over 18,000 tons (16,000 metric tons) of additional concrete-reinforcing steel for construction compared with the 2004 CMRR-NF estimate under either the Deep or Shallow Excavation Option. These additional construction materials and the additional construction waste that would be generated during construction of the Modified CMRR-NF would result in additional truck transportation of materials to and from LANL. The greater quantities of excavated soil and rock material would also require additional transportation within LANL beyond what would have been required for the 2004 CMRR-NF.

In total, it is estimated that the Deep or Shallow Excavation Option would require up to 38,000 or 29,000 offsite truck trips, respectively, to support construction of the Modified CMRR-NF, depending on the size of the trucks used for the construction materials deliveries and waste transportation off site for disposal. The increased truck trips would average from 17 to 22 additional truck trips per day on the roads leading to LANL over the life of the construction project under the Deep or Shallow Excavation Option, compared with 1 additional truck trip per day that would have been required for the 2004 CMRR-NF. The largest number of trips would occur during the period in which the low-slump concrete would be poured and the materials needed to support mixing the required concrete would be delivered. The largest number of trips under the Shallow Excavation Option would occur both during the basemat pour and when engineered backfill would be required to support completion of the Modified CMRR-NF.

About 790 construction workers would be on site during the peak construction period under both the Deep and Shallow Excavation Options, compared with an estimated peak of 300 workers in the *CMRR EIS*. This peak number of workers would add about 500 vehicles to local LANL roadways during peak construction times. Beginning with the basemat pour, most of these workers would park their personal vehicles in the parking area to be built in TA-72 and would be shuttled to the construction site using buses.

Under both construction options, construction of the infrastructure support packages for the Modified CMRR-NF would begin in 2012, with completion expected in 2020. These construction period estimates are longer than the approximately 3-year construction period estimated in the *CMRR EIS*. Under either construction option, there would be a 3-year transition period from the existing CMR Building as the Modified CMRR-NF is completed and approved for startup and operations.

Additional anticipated actions and activities required for the Modified CMRR-NF beyond those included in the *CMRR EIS* and the 2008 *LANL SWEIS* regarding the CMRR-NF are described in the following paragraphs. The locations of these CMRR Project activities are shown in **Figure 2–9**. In general, many of these activities make use of previously developed[5] land that is industrial in character. Most of the undeveloped sites would be used temporarily during the construction period and then reclaimed and revegetated.

Construction Office Trailers and Support Facilities

The Modified CMRR-NF construction phase would install temporary modular office trailers in TA-48 for use by the construction management staff and construction subcontractor management. The construction office trailers and parking lot in TA-50 that were established in earlier phases of the CMRR Project will also support Modified CMRR-NF construction. When Modified CMRR-NF Alternative construction activities reach a point that the temporary office trailers are no longer needed, they would be vacated and removed from LANL site. As the CMRR Project nears completion, the TA-50 parking lot would be converted for use by the CMRR Facility workforce and by other employees working at nearby technical areas.

Due to the expected size of the construction work force to support the project, existing office space in White Rock would be leased for personnel badging and training. All construction workers would be processed through the badging and training facility.

[5] *For the purposes of this impacts analysis, areas that are considered to be "previously developed" are those in which land has been changed such that the former state of the area and its functioning ecological processes have been altered.*

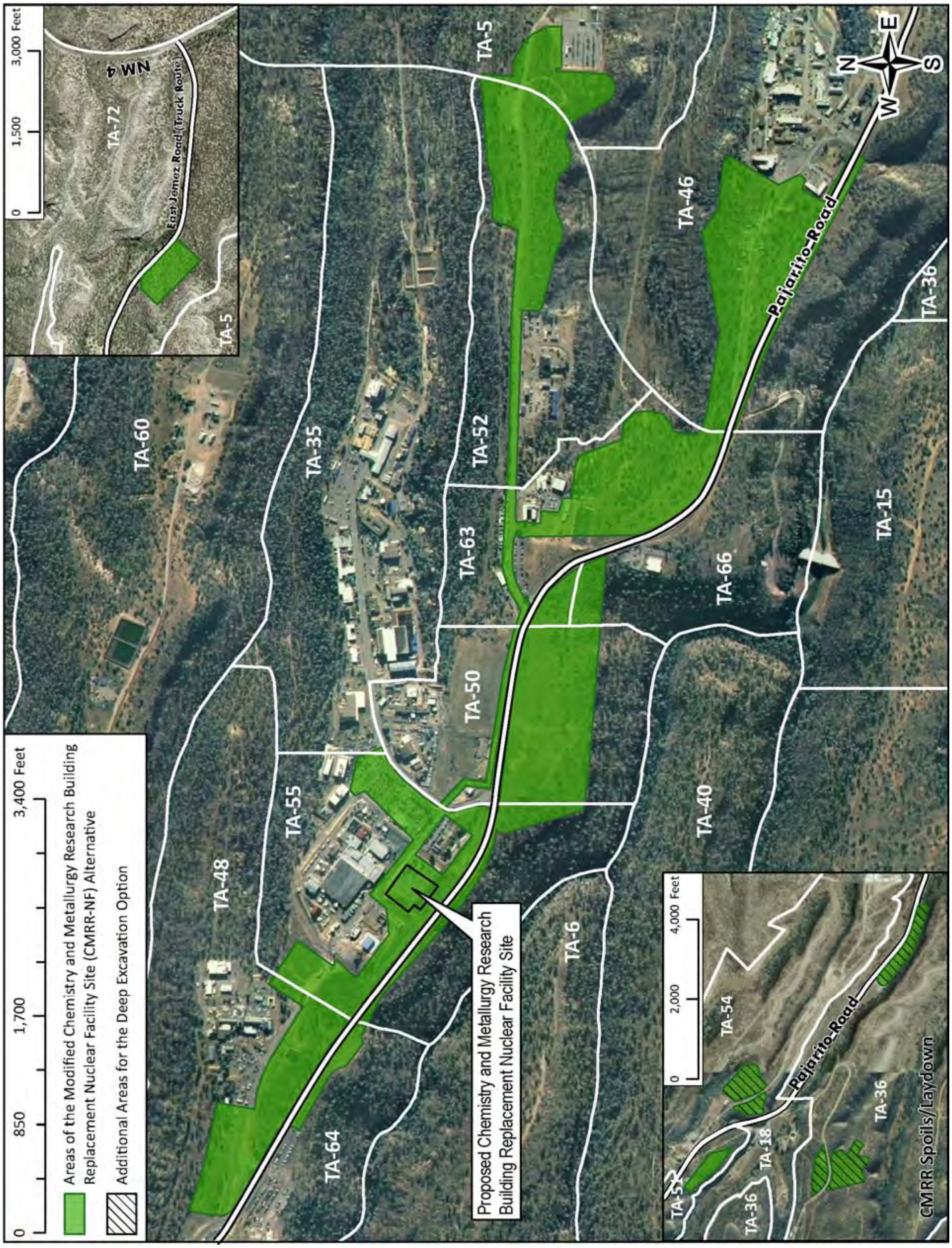

Figure 2–9 Potentially Affected Areas Under the Modified CMRR-NF Construction Plan

TA-72 Parking Lot

A parking lot with a perimeter property protection fence would be constructed in TA-72 along the south side of East Jemez Road, east of the TA-72 firing range. This parking lot would provide 600 to 800 parking spaces and would include a large-truck turn-around loop. Road improvements would be made, including turning lanes and a traffic signal light. Electrical power for the traffic signal would be extended along the East Jemez Road right-of-way from either the intersection with New Mexico State Road 4 or the TA-72 firing range. Between 13 and 15 acres (5.3 and 6.1 hectares) would be disturbed for the parking lot, truck loop, and road improvements as necessary. This total acreage is mostly undeveloped, forested land, but the site was evaluated in the 2008 *LANL SWEIS* for the construction of a large warehouse, security worker building, and permanent truck inspection site; however, NNSA has not yet made a decision on whether to construct and operate that facility. After the Modified CMRR-NF construction phase ends, the parking lot site would be regraded and revegetated.

The Modified CMRR-NF construction personnel would park their vehicles in this temporary lot and would be shuttled to and from the job site in buses. The truck loop area would be used to minimize disturbance of traffic flow along East Jemez Road. The LANL truck inspection station is located near the intersection of East Jemez Road and New Mexico State Road 4; this truck loop would enable Modified CMRR-NF Project supply trucks to change directions after being inspected at the LANL truck inspection station. The trucks would continue west along East Jemez Road, enter a signaled left-turn lane into the parking lot, use the truck loop area, and exit the parking lot, turning right to return to New Mexico State Road 4 and then continue on toward White Rock, then to the CMRR-NF construction site.

TA-48/55 Bus Parking Lot

A bus parking lot with a perimeter property protection fence would be constructed in TA-48 and TA-55 along the northwest border of TA-55. This parking lot would provide room for buses carrying construction personnel from the TA-72 parking lot to the CMRR-NF construction site. About 3.0 acres (1.2 hectares) of previously disturbed land would be used for the parking lot. After the Modified CMRR-NF construction phase ends, the parking lot site would be regraded and revegetated.

Pajarito Road Realignment

The Modified CMRR-NF Project may require the shift of a short segment of Pajarito Road slightly to the south at a location in the vicinity of the entrance to TA-55. The road shift would be needed to integrate permanent security requirements for the CMRR Project and TA-55 site security needs, specifically, to ensure proper placement of the perimeter intrusion fence in proximity to Pajarito Road after construction of the CMRR-NF is nearly complete. The proposed road shift would move an estimated one-half-mile segment of Pajarito Road (near the entrance to TA-55 that is just southeast of RLUOB and extending an estimated 2,100 feet [640 meters] to the northwest) so that the road centerline would be shifted up to 56 feet (17 meters) south of its current position. Underground utilities in the area (sewer line, natural gas line, water line, and electrical and telecommunications duct banks) would be relocated; the existing roadbed would be moved; and up to one-half mile of a new road would be constructed with two driving lanes, shoulders, and a turn lane at the Pecos Drive/Pajarito Road intersection. The shifted road segment may require some buildup of the ground surface along the edge of Twomile Canyon, but the road would remain on the mesa top and would not enter the canyon after realignment. The proposed shift of the road segment would permanently disturb less than 2 acres (0.8 hectares) of previously undeveloped land and 1.4 acres (0.6 hectares) of previously developed land. Pajarito Road is not open to the public; it has vehicle access portals to control access to facilities between TA-64 and New Mexico State Road 4. Construction of the new segment of road is not expected to result in a closure of Pajarito Road to LANL worker traffic or to affect other operating facilities along Pajarito Road. No construction laydown and support areas beyond those established for the Modified CMRR-NF construction would be needed.

Construction Laydown and Support Areas (TA-46/63, TA-48/55, and TA-5/52)

Because of increased construction requirements for the Modified CMRR-NF, additional land would be required for construction equipment and materials laydown and support activities beyond that estimated in the *CMRR EIS*. Three additional areas for construction laydown and support services could be used: one area is located in portions of TA-46 and TA-63, a second area is located in TA-48 and TA-55, and a third is located in TA-5 and TA-52. These areas would be used temporarily and would occupy both undeveloped and developed land, including areas that have been used for prior material storage and laydown activities; after construction activities are complete, these areas would be regraded and revegetated and would then become available for future use by LANL operations.

The TA-46/63 laydown area would occupy an estimated 40 acres (16 hectares) that span the shared boundary of the technical areas. Activities in TA-63 would include the installation of two ten-plex construction office trailers; the construction of short access and haul roads, approximately 110 parking spaces, and two concrete batch plants (discussed separately later); relocation of utilities; and construction of laydown and storage areas. An existing stormwater detention pond would be enlarged. In TA-46, the laydown area would also require utility relocations, the installation of short access and haul roads, a construction office trailer, a parking area, and areas for construction material and equipment laydown and staging. A fully enclosed, climate-controlled storage building of about 60,000 square feet (5,600 square meters) of warehouse space may be installed at this site for specialized equipment storage. The TA-46/63 area contains both undeveloped and developed land, including areas that have been used for prior material storage and laydown activities.

The additional TA-48/55 laydown area would cover an estimated 10 acres (4 hectares) that span the shared boundary of the technical areas; activities at the site would include the installation of short access and haul roads, approximately 45,000 square feet (4,200 square meters) of construction craft and office trailers, and construction laydown areas. A structure being used during remediation of TA-21 may be used as a construction support building in TA-48/55; prior to moving the structure to TA-48/55 it would be surveyed to ensure it meets radiological release criteria. This additional TA-48/55 laydown area would be contiguous to the 10-acre (4.0-hectare) site in TA-55 that was identified for construction trailer, laydown, and concrete batch plant use in the *CMRR EIS*.

The 20-acre (8.1-hectare) site in TA-48/55 that would be required for the Modified CMRR-NF Alternative construction is mostly developed and previously disturbed land. There is a potential release site (PRS 48-001) that may affect a small portion of the TA-48 area proposed for use as a laydown area. During site development of the nearby area, if contamination is suspected, work would be stopped, characterization performed, and the necessary action and disposition completed. The extent of the potential release site is currently being evaluated; appropriate construction and operation measures would be employed to minimize potential disturbance of contaminated soils or other effects on the potential release site.

The additional TA-5/52 laydown and construction support area would cover an estimated 19.1 adjacent acres (7.7 hectares) that span the shared boundary of the technical areas. This additional TA-5/52 area could be used for construction trailers, laydown, or spoils storage, depending on the needs of the Modified CMRR-NF construction project.

Additional Concrete Batch Plants (TA-46/63)

The *CMRR EIS* included the use of a single concrete batch plant located on 5 acres (2 hectares) of land within TA-55 to support the CMRR Project construction (DOE 2003b). More concrete would be needed for the Modified CMRR-NF construction, which would require additional concrete production capability. Under this Modified CMRR-NF Alternative, up to two additional batch plants, for a total of three concrete batch plants, would be established. The production rates of the plants would be approximately 150 to 300 cubic yards (115 to 230 cubic meters) of concrete per hour. As with the concrete batch plant described in the *CMRR EIS*, the additional plants would be operated by electricity. They would be temporary installations operated on an as-needed basis to supply concrete throughout the Modified CMRR-NF construction period and would be subsequently removed. Two batch plants would be located in TA-63 (adjacent to the TA-46/63 laydown area) as a single facility. Only one plant would be used at a time, with the other serving as a backup. The TA-63 plants, including supporting functions, would occupy about 15 acres (6.1 hectares). This area is included in the total area discussed above related to the construction laydown area that would be built in TA-63.

The batch plants are not expected to operate at the same time. Peak operation of the TA-48/55 concrete plant of 150 cubic yards per hour is expected during the first year of Modified CMRR-NF construction (2012) under the Deep Excavation Option; the plant would be used to produce an estimated 250,000 cubic yards (191,000 cubic meters) of low-slump concrete that would be placed in the lower 60 feet (18 meters) of the site excavation to provide a stable surface for construction. In the following years, the plant would supply structural concrete for the Modified CMRR-NF. Under both construction options, a primary and backup concrete batch plant would be established in TA-46/63 to produce structural concrete for the Modified CMRR-NF building.

Power Upgrades (TA-3 to TA-55 and TA-5 to TA-55)

Permanent power service to TA-55 would need to be upgraded for facility operations. This would be done either by building the TA-50 substation, as described in the 2008 *LANL SWEIS*, or by adding a new feed from the TA-3 electrical substation to TA-55. This feed would be extended from the TA-3 substation south along Diamond Drive and would follow Pajarito Road through TA-64 and TA-48 to TA-55. Existing duct banks in previously developed areas along the route would be used.

Additional power service would be needed at the Modified CMRR-NF construction site and for various construction support activities and operations that would extend from the TA-5 East Technical Area substation to the proposed CMRR-NF site. The necessary upgrades could be temporary or permanent, depending on future power requirements, but in either case, the level of environmental impacts would be similar. Power would be brought along a route from the existing TA-5 East Technical Area substation along Puye Road through TA-52 and TA-63, then along Pajarito Road through TA-50, and along Pecos Drive to the Modified CMRR-NF site in TA-55, affecting about 9.1 acres (3.7 hectares). Electric utility easements and overhead power poles that currently exist along this route would be used whenever possible, but some new overhead poles may be needed, and an estimated 2 acres (0.8 hectares) would likely be disturbed during the placement of these new poles and line. It is also possible that underground ducts could be used instead of new overhead poles along this segment of the route.

Additional Spoils Storage Areas (TA-36, TA-51, TA-54)

To carry out the Deep Excavation Option, the Modified CMRR-NF Project would need approximately 25 to 30 acres (10 to 12 hectares) of space for excavated spoils material storage. To carry out the Shallow Excavation Option, only approximately 10 acres (4.0 hectares) would be needed to store excavated spoils materials. Under either of the construction options, the space needed for spoils materials storage would not be collocated at the building site; instead, spoils storage could be distributed across available acreage at LANL. The 2008 *LANL SWEIS* estimated that about 150,000 cubic yards (115,000 cubic meters) per year of excavated soils could be generated and stored on site due to the various construction projects, including the CMRR Project, that were expected to be undertaken at LANL. Available acreage that could be used to store and stage excavated spoils beyond the areas included in the 2008 *LANL SWEIS* has been identified; however, not all of the areas would be used. Identified possible spoils storage areas include approximately 39 acres (16 hectares) in TA-36, 9 acres (3.6 hectares) in TA-51, and 19 acres

(7.7 hectares) in TA-54, as shown in Figure 2–9. Cultural resources and potential release sites in these areas would be avoided.

Stormwater Detention Ponds (TA-48, TA-50, TA-63, TA-64, TA-72)

Stormwater detention ponds would be built in TA-48, TA-50, TA-63, TA-64, and TA-72 to support the Modified CMRR-NF Project. A 0.5-acre (0.2-hectare) detention pond would be built in TA-50 to detain runoff from the CMRR-NF site during operations. An existing stormwater detention pond in TA-63 would be expanded from approximately 0.5 acres (0.2 hectares) to 1 acre (0.4 hectares). A second 1-acre (0.4-hectare) detention pond would also be constructed in TA-63; the detention ponds would be built in TA-63 to collect stormwater from the proposed laydown area and concrete batch plant(s) (the detention ponds in TA-63 are included in the acreage discussed above for construction laydown areas). A 1-acre (0.4-hectare) stormwater detention pond would be built in TA-64 to collect stormwater from the proposed laydown area and concrete batch plant in TA-48/55. Within the areas already identified as potentially disturbed in TA-48 and TA-72, two additional 0.1-acre (0.04-hectare) stormwater detention ponds may be built to support construction activities. When these temporary construction areas are reclaimed, the temporary stormwater detention pond sites would also be regraded and these areas would be reclaimed as well.

2.6.2.2 Operational Characteristics Associated with the Modified CMRR-NF

The following discussion highlights areas where operation of the Modified CMRR-NF would differ from operation of the 2004 CMRR-NF as it was envisioned in the *CMRR EIS.* As noted in Section 2.6, the 2004 CMRR-NF could not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA AC and MC mission work; therefore, the 2004 CMRR-NF would not be built. The Modified CMRR-NF would be able to operate to support the full operational requirements of NNSA's nuclear weapons complex, as set forth in the *SSM PEIS,* the 2008 *LANL SWEIS,* and the *Complex Transformation SPEIS* RODs. Estimates of the infrastructure and utility requirements have evolved from those in the *CMRR EIS*. These changes reflect progress in the design of the facility from an early conceptual design to a more detailed design. The current stage of design provides the basis for more-accurate estimates of utility requirements.

Infrastructure Parameters: Additional infrastructure requirements would be needed on an annual basis for the Modified CMRR-NF compared to the 2004 CMRR-NF estimated requirements due to the increased size of the Modified CMRR-NF building and updated estimates. The current design includes a demineralization unit installed in the Central Utility Building to remove silica from all water used in the CMRR-NF and RLUOB. About 6 million gallons (23 million liters) of additional water would be used annually for the Modified CMRR-NF and RLUOB (16 million gallons [61 million liters] compared to the 10 million gallons [38 million liters] required by the 2004 CMRR-NF and RLUOB). The Modified CMRR-NF and RLUOB would also require about 140,000 additional megawatt-hours of electricity annually compared with the estimate included in the *CMRR EIS* and an additional 24 megawatts of peak power (the *CMRR EIS* electricity requirements are now known to have been underestimated). The addition of the substation in TA-50 analyzed in the 2008 *LANL SWEIS* or the extension of a power line from the TA-3 eastern technical area substation along an existing right-of-way would ensure adequate power continues to be available at the site, should additional power availability at the site prove to be necessary. The Modified CMRR-NF would also require about 58 million cubic feet of natural gas annually to heat the larger building; natural gas would be piped to the Central Utility Building, where burners would heat air that would be conveyed to the CMRR-NF for heating. The *CMRR EIS* did not project any requirement for natural gas.

Nonradiological Liquid Effluent: The Modified CMRR-NF would not include any permitted outfalls, so the discharge from this facility would be zero as it was from the 2004 CMRR-NF in the *CMRR EIS*. Nonradiological liquid effluents would be transferred via a pipeline to the TA-46 Sanitary Wastewater Systems Plant for treatment.

Radiological Liquid Effluent: The Modified CMRR-NF would generate about 344,000 gallons (1.3 million liters) of radiological liquid effluent annually (Balkey 2011), far less than the 3.8 million gallons (14 million liters) estimated in the *CMRR EIS*. The current estimate of radioactive liquid waste from the Modified CMRR-NF is based on a recent study (Balkey 2011) performed to provide engineering data regarding the necessary site capacity for radioactive liquid waste treatment. This recent study considered contemporary design and planned operations data; the *CMRR EIS* estimate was an older, conservatively high estimate based on unmetered water usage and a high level of operations at the CMR Building. These wastes would be collected and discharged into a network of drains that would route the solutions to RLWTF in TA-50 for treatment and disposal.

Sanitary Waste Generation: The CMRR Facility would include a demineralization unit (in the existing Central Utility Building) to remove silica from water. Use of this demineralization unit would reduce typical performance problems associated with silica in major equipment, thus reducing maintenance, and would increase durability and operating life. The demineralization unit produces reject water that would be discharged from the Central Utility Building into the CMRR Facility sanitary wastewater collection system, which would be connected to the existing TA-46 Sanitary Wastewater Systems Plant. It is estimated that use of this demineralization unit would produce approximately 3.5 million gallons (13 million liters) of reject water annually. This reject water would be in addition to the 7 million gallons (27 million liters) of wastewater estimated in the *CMRR EIS*.

Workforce: The workforce that would use the Modified CMRR-NF and RLUOB includes a range of users. There are staff members whose assigned work location would be in the CMRR Facility, with most of them assigned to RLUOB. Many of these workers would perform research in the Modified CMRR-NF laboratories; some would perform work in the RLUOB laboratories. Additional workers whose assigned work location is another LANL facility would also perform laboratory work at the CMRR Facility (primarily at the Modified CMRR-NF). Additional workers at the facility would include inspectors and auditors, collaborating researchers from outside of LANL, and workers attending training. The full-time operational workforce at the Modified CMRR-NF and RLUOB would be equivalent to 550 people, the same number estimated in the *CMRR EIS*. The personnel that would work in the CMRR Facility would not be new workers to the site, but rather would be workers moving to the new facility from the existing CMR Building or other LANL locations. It is estimated that there would be the equivalent of about 550 radiological workers, annually, using the CMRR Facility, the same number as estimated in the *CMRR EIS*.

2.6.3 Continued Use of CMR Building Alternative

Continued use of the CMR Building would not involve the construction and operation of new laboratory buildings for AC and MC operations. The existing CMR Building in TA-3 would continue to be used for SNM operations, as described in Sections 2.2 and 2.3, until it was no longer considered safe to do so. As discussed in Section 2.2.1, a portion of the CMR Building is located over a fault that could severely damage or destroy the building in the event of a severe earthquake.

The administrative support, office space, and radiological laboratory functions that were previously performed within the CMR Building would occur within the new RLUOB in TA-55. The CMR Building would receive routine maintenance and limited component replacement. The CMR Building would continue to be operated as a Hazard Category 2, Security Category III nuclear facility for as long as it could continue to be operated safely; this designation limits the amount of SNM that can be used and the level of operations. These limitations do not currently support the missions that NNSA has assigned to LANL through the *SSM PEIS*, *LANL SWEIS*, and *Complex Transformation SPEIS* RODs. This alternative does not completely satisfy NNSA's stated purpose and need to carry out AC and MC operations at a level to satisfy the entire range of DOE and NNSA mission support functions. However, this alternative is analyzed in this *CMRR-NF SEIS* as a prudent measure in light of possible future fiscal budgetary constraints.

The various aspects of continued operation within the CMR Building are described in Section 2.3, and these would be common to the Continued Use of CMR Building Alternative. Operations in the CMR Building are generally expected to continue until the building can no longer be operated safely, a replacement facility is available, or NNSA makes other operational decisions. Eventually, the building would be completely shut down and demolished. Decontamination, decommissioning, and demolition (DD&D) of the CMR Building is discussed in Section 2.8.1.

2.7 Alternatives Considered but Not Analyzed in Detail

A number of alternatives were considered, but were not analyzed in detail in this *CMRR-NF SEIS* because NNSA determined they are unreasonable. As required in the Council on Environmental Quality's (CEQ) NEPA regulations, the reasons for their elimination from detailed study are discussed in this section.

2.7.1 Alternative Sites

As discussed in Chapter 1, Section 1.6, the *Complex Transformation SPEIS* analyzed other possible locations outside of LANL for the activities that would be accomplished in the CMRR-NF. In the ROD for the *Complex Transformation SPEIS* (73 FR 77644), NNSA included its decision to retain plutonium manufacturing and research and development at LANL, and in support of these activities, to proceed with construction and operation of the CMRR-NF at LANL as a replacement for portions of the CMR Building. These decisions support NNSA's goal of consolidating activities and reducing the size of the Nation's nuclear weapons complex, together with modernizing outmoded infrastructure. Therefore, because the alternative sites for key activities within the nuclear weapons complex, as well as the need for the CMRR-NF, have been reviewed in depth and programmatic decisions have been issued as recently as December 2008, no additional sites outside of LANL are being considered further in this *CMRR-NF SEIS*.

In the 2003 *CMRR EIS*, an alternative site in TA-6 at LANL was evaluated as a possible site for the CMRR Facility. The TA-6 site was, in effect, a greenfield site that, if chosen, would have resulted in the central portion of the technical area changing from a largely natural woodland to an industrial site. As indicated in the 2003 *CMRR EIS*, development of the TA-6 site would have resulted in greater environmental impacts than building the proposed CMRR Facility in TA-55. Located near the western boundary of LANL at a slightly higher elevation and about 1 mile (1.6 kilometers) west of TA-55, TA-6 is situated over the same geologic stratigraphy as TA-55. It is also nearer several known fault traces.

In the February 2004 ROD (69 FR 6967) associated with the *CMRR EIS*, NNSA decided that the location for the CMRR Facility would be in TA-55. The site proposed for the CMRR-NF (2004 or Modified) in TA-55 reflects NNSA's goal to bring all LANL nuclear facilities into a nuclear core area. Siting of the CMRR-NF in TA-55 would collocate the AC and MC capabilities near the existing TA-55 Plutonium Facility, where the programs that make most use of these capabilities are located. As discussed in Section 2.5, RLUOB (which contains a training facility, incident control center, and radiological laboratories, as well as offices for personnel who would work in the CMRR-NF) has already been constructed in TA-55. No other sites at LANL have been identified as appropriate candidates for the CMRR-NF and none are being considered further in this *CMRR-NF SEIS*.

2.7.2 Extensive Upgrades to the Existing Chemistry and Metallurgy Research Building In Whole or In Part

In the 2003 *CMRR EIS*, DOE considered the proposal to complete extensive upgrades to the existing CMR Building's structural and safety systems to meet current mission support requirements for another 20 to 30 years of operations and dismissed it from detailed analysis. Beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term structural viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive facility-wide upgrades originally planned for the CMR Building would be less technically feasible than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. The technical challenges of implementing extensive seismic upgrades to the entire CMR Building are exacerbated by the findings of the subsequent seismic hazard analysis and the magnitude of the current design-basis earthquake (LANL 2007). Structurally upgrading the entire structure to a significant extent would require construction of new walls and other building components adjacent to the existing ones that have utilities and structural building features already in place. In addition, the floors of the building would need to be significantly upgraded. This work would have to occur while continuing to provide mission-essential operations in the CMR Building using nuclear materials and hazardous chemicals.

The technical challenges of implementing extensive seismic upgrades to the entire CMR Building as discussed in the 2003 *CMRR EIS* remain. NNSA has considered undertaking a more limited, yet intensive, set of upgrades to a single wing of the CMR Building, Wing 9, to meet current seismic design requirements so that this wing could be used for a limited set of Hazard Category 2 AC and MC operations. After careful consideration of the complex engineering and operational issues, as well as the CMR Building site's seismic concerns, this potential Wing 9 upgrade alternative was also determined not to be a reasonable alternative for meeting NNSA's purpose and need for action.

CMR Building operations and capabilities are currently restricted due to safety and security constraints, as discussed in Section 2.6.3 of this *CMRR-NF SEIS*. Although the limited Wing 9 upgrade would allow the current operational restrictions on material quantities to be relaxed somewhat so that larger quantities of SNM could be used within the laboratories, the size of Wing 9 would limit the amount of laboratory space that could be developed to less than half of that required to meet NNSA's purpose and need for mission support work. In addition, NNSA would not be able to meet its Nuclear Enterprise goal for consolidating plutonium operations at one LANL location as stated in the 2008 ROD for the *Complex Transformation SPEIS* (73 FR 77644). Instead, a portion of the plutonium operations would be located within a security perimeter in TA-3, CMR Building, Wing 9, and the balance would be located in the TA-55 Plutonium Facility (Building PF-4). This physical separation would result in continuing programmatic and operational inefficiencies and ongoing risks associated with transporting nuclear material samples and hazardous materials between the two facilities. Additional life-cycle costs would be incurred by having to maintain separate security infrastructure and nuclear safety authorization basis documentation for the two locations. Additionally, the current set of operational safety controls present within Wing 9 is specific for the current operations; the installation of new engineered safety controls, such as glovebox ventilation and filtration, would be needed to address public and worker hazards protection. These engineered safety controls would be located within or in close proximity to Wing 9. In some cases, these controls would require a large amount of floor space; if installed in Wing 9, they would further limit the available space for operations. In order to maximize the available space within Wing 9 for AC and MC operations, a new, separate structure to house these controls would need to be built close to Wing 9 as part of the upgrade effort.

The CMR Building is located in close proximity to geologic faults within TA-3; a fault trace has been identified beneath two wings of the structure. Before design of the new support structures could begin, it would be necessary for NNSA to determine the full extent of probable ground motion behaviors during a significant seismic event for the general Wing 9 location. This determination would require a thorough geotechnical characterization of the site, both to assess the potential for seismic surface rupture at the new support structure locations and to determine the potential horizontal and vertical ground motion during a seismic event. The geotechnical characterization, in turn, would entail the collection of detailed geotechnical data (by drilling of boreholes, excavating characterization trenches, and other sample collection methods) in order to support structural design. The subsurface area around Wing 9 has been previously disturbed by LANL activities (such as the construction of Wing 9 and the installation of subsurface site utilities); this could severely compromise the quality of the data collected for surface rupture displacement calculations, which are a critical design input for structures located on or near geologic faults. The extensive site geotechnical characterization performed for the TA-55 CMRR-NF site location (including an independent technical review and concurrence process) required about 5 years to complete. Although a limited amount of geotechnical information is already available for the TA-3 CMR Building site from earlier site geologic investigations, the remaining extensive site characterizations required for the Wing 9 area would be complicated by the existence of the existing structure, buried utilities, surface infrastructure, and ongoing facility operations and would take several years to accomplish.

Furthermore, the Wing 9 upgrades would require the installation of an enhanced security perimeter, the construction of a separate utilities building, and a materials storage vault. Because the upgrades would be made to a structure that is already over 50 years old, the expected lifetime of an upgraded Wing 9 would be significantly less than the 50-year design life of a new facility. Costs for the Wing 9 geotechnical investigations, structural and security upgrades, and construction of new support buildings and utilities installations, would be substantial, although not likely to approach those associated with either of the construction options considered under the Modified CMRR-NF Alternative. However, after consideration of the various engineering and geological issues; the costs of implementing upgrades to an older structure and developing a new security infrastructure; the costs of maintaining a second security infrastructure and safety basis (in addition to that for TA-55); the mission work disruptions associated with construction; operational constraints due to the limited laboratory space; and programmatic and operational issues and risks from moving SNM between TA-3 and TA-55, this action was not analyzed further as a reasonable alternative to meet NNSA's purpose and need for action in this *CMRR-NF SEIS*.

NNSA also has considered the possibility of renovating, upgrading, and reusing other CMR Building wings and additional wing combinations to provide the space needed for continuing AC and MC work in the building. However, for the reasons cited in the previous paragraphs, the other wings and wing combinations are not reasonable alternatives for providing adequate safe and secure space for future operations in a feasible, cost-effective manner and are not considered further in this *CMRR-NF SEIS*.

2.7.3 Distributed Capabilities at Other Existing Los Alamos National Laboratory Nuclear Facilities, Including New Vault Construction

The distribution of AC and MC capabilities among multiple facilities at LANL has been suggested. Because of the quantities of SNM involved, to fully perform the AC and MC and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. Due to seismic concerns and limitations on the quantity of SNM that can be safely managed, the CMR Building has a limited ability to support continued operations. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic closure of roadways and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls required for this type of work.

Other designated Hazard Category 2 facilities at LANL are not candidates because they have been decommissioned for safety and security reasons and are no longer considered Hazard Category 2 facilities, are closure sites (specifically, environmental cleanup potential release sites), or are support facilities. The support facilities would not have the necessary space to perform AC and MC operations and to perform their support functions (for example, waste management facilities). Additionally, as noted above for other facilities, use of these support facilities would introduce new hazards for which the facilities were not designed.

Construction of only the proposed CMRR-NF vault at TA-55 and use of the TA-55 Plutonium Facility was also considered by NNSA to determine whether that proposed combination, together with the planned future use of RLUOB, would provide adequate space for AC and MC operations over the long term. However, augmenting the existing TA-55 Plutonium Facility with only additional vault storage space would not alleviate the need for additional work space for AC and MC laboratory operations. Space does not exist in the TA-55 Plutonium Facility to support this work, and these operations cannot be accomplished within RLUOB because RLUOB is not able to support the level of radiological operations required to support the work needed. As discussed in Section 2.5, RLUOB contains a radiological laboratory capable of handling less-than-Hazard Category 3 radioactive materials per DOE-STD-1027. It is currently authorized to handle up to 8.4 grams (0.3 ounces) of plutonium-239 equivalent. The CMRR-NF is being designed as a Hazard Category 2 facility capable of using kilogram quantities of plutonium-239 equivalent. This alternative was, therefore, not analyzed further in this *CMRR-NF SEIS*.

2.7.4 Other Alternatives Considered

Additional alternatives have also been considered by NNSA for providing the necessary physical means for accommodating the continuation of mission-critical CMR capabilities in a safe, secure, and environmentally sound manner at LANL. These alternatives included delaying any decision on the CMRR-NF at this time and re-examining it at a later date, perhaps as long as several decades from now.

NNSA also considered other suggested construction proposals for building the CMRR-NF, such as constructing a smaller building; reconfiguring the building laboratories and other room partitions; constructing a building with a larger footprint and fewer floors so that the building would require a shallower excavation; constructing a building with more floors above ground so that the building would require a shallower excavation; and reconfiguring the internal walls and laboratory arrangements. However, space is needed to support AC and MC mission-support work, and additional space has been determined necessary for building support systems (for example, air handling and filtration), security requirements, safety requirements and equipment, and general utilities. Building an undersized facility in terms of useful AC and MC laboratory space would not meet NNSA's needs and would not be a good investment. Space for construction at TA-55 is limited by the geographic features of the mesa and canyon setting; road requirements; other building, utilities, and land use requirements; and security requirements related to the site that reduce the amount of appropriate available building space. A multi-storied building design is also more efficient in terms of heating and cooling for worker comfort, as well as for other general utility consumption.

Another construction proposal considered was a CMRR Facility comprising three buildings (RLUOB and two nuclear facilities). A three-building CMRR Facility, as considered in the 2003 *CMRR EIS*, would have separated the nuclear facility functions by hazard categorization, resulting in two buildings (a Hazard Category 2 nuclear facility and a Hazard Category 3 nuclear facility). A parallel concept that was also considered would be to separate the CMRR Facility functions based on their security classification requirements, which would also result in two nuclear facilities. Segregation based on security requirements would be very similar to segregation according to hazard category because the materials that contain larger quantities of plutonium and thus require a Hazard Category 2 facility are also the materials that would need Security Category I/II levels of protection. The proposed nuclear materials vault would be part of the Security Category I/II building, which would reside inside the TA-55 enhanced security perimeter (that is, a perimeter intrusion, detection, assessment and delay system [PIDADS]); the Security Category III building, which would house Hazard Category 3 activities, could reside at TA-55 outside of the PIDADS.

To meet mission requirements, the needed laboratory space would not change appreciably if two nuclear facilities were built rather than a single nuclear facility. Dividing the laboratory space between two nuclear facilities rather than using a single nuclear facility does not change the task area space requirements for performing the AC, MC, and research functions. However, dividing laboratory space between facilities results in a slight increase in the overall task area space needed, because some task area space would have to be duplicated in each building, specifically, space for sample management and waste/materials management. Both buildings would require specialized ventilation systems that support gloveboxes, open-front gloveboxes, and fume hoods.

NNSA recently performed a qualitative evaluation of constructing a two-building nuclear facility compared to the baseline proposal of constructing a single Hazard Category 2, Security Category I/II facility. For the two-building proposal, the evaluation indicated that an overall increase in the size of the buildings and the building footprint would likely result because certain functions would have to be provided in each building and, therefore, would be duplicated. Although the level of controls would differ, each building would require credited safety controls (structures, systems, and components) to ensure that releases would be controlled in the event of an accident. Systems and support space (for example, change rooms, utilities, air-handling and filtration systems, and monitoring and control systems) would be required in each building. Constructing two buildings (and duplicating the systems and support space) would increase the required amounts of construction materials and, if they were constructed in parallel, would require additional land areas for support space (LANL 2011f).

The two-building proposal could provide flexibility with respect to funding requirements if design and construction were undertaken sequentially. Although segregating the CMRR-NF into two separate buildings could provide short-term budgetary flexibility compared to the single building included in the Modified CMRR-NF alternative, it would extend the schedule and continued reliance on the CMR Building with no increase in function or reduction in facility size (LANL 2011f).

Programmatically, NNSA would prefer construction of the Security Category I/II building first to provide needed vault storage and MC capabilities and capacity. However, addressing the design, construction, or both sequentially would delay the availability of the Security Category III facility and would extend the time (and associated risk) that NNSA would have to continue to rely on the CMR Building and the period of construction-related disruptions at TA-55. Operating two separate buildings would require a slight increase in personnel as a result of more support personnel (for example, radiological control technicians) and more operational personnel (for example, materials and waste packaging and transfer staff).

In summary, various construction proposals have been considered during the iterative planning stages of the project to date, and NNSA has arrived at the current proposed building configuration and size after careful deliberation. Additional building configuration and construction proposals for the CMRR-NF are not, therefore, further analyzed in this *CMRR-NF SEIS.*

2.8 Facility Disposition

2.8.1 Disposition of the Chemistry and Metallurgy Research Building Common to All Three Alternatives

Disposition of the existing CMR Building would involve DD&D of the entire building. While the DD&D procedures for dispositioning the CMR Building would be common actions across each of the alternatives analyzed in this *CMRR-NF SEIS*, the timing of the actions would be different under the Modified CMRR-NF Alternative versus the Continued Use of CMR Building Alternative. The various dispositioning requirements common to the three alternatives are discussed in the following text in detail.

Over the past 60 years of operation, certain areas within the CMR Building, pieces of equipment, and building systems have become contaminated with radioactive material during operations involving SNM. These areas include contaminated conveyors, gloveboxes, hoods and other equipment items; contaminated ducts; contaminated hot cell floor space; and laboratory floor space. It is estimated that DD&D of the CMR Building would result in about 38,000 cubic yards (29,000 cubic meters) of low-level radioactive waste, 150 cubic yards (115 cubic meters) of transuranic waste, and 280 cubic yards (210 cubic meters) of mixed low-level radioactive waste. In addition, after decontamination, demolition of the building would result in about 110,000 cubic yards (84,000 cubic meters) of solid uncontaminated waste and 260 tons (235 metric tons) of chemical waste.

The existing CMR Building has not been completely characterized with regard to types and locations of contamination. In addition, project-specific work plans have not been prepared that would define the actual methods, timing, or workforce to be used for the decontamination and demolition of the building. Instead, general or typical methods of decontamination and demolition are presented in general terms below. Additional National Environmental Policy Act compliance analysis may be required when the specific actions of the disposition of the CMR Building actually become mature for decision.

2.8.2 Overview

The CMR Building consists of three levels and multiple wings, as described in Section 2.2. Except for Wing 9, the CMR Building is constructed of reinforced concrete floors (typically 4 inches [10 centimeters] thick) and walls (typically 18 inches [46 centimeters] thick). The building is supported on reinforced concrete basement walls and columns on spread footings. Wing 9 is constructed with above-grade walls consisting of lightly reinforced concrete masonry walls. The floor and grade slabs are approximately 11 inches (28 centimeters) thick with massive footings and concrete around and under the hot cells (LANL 2003). The total floor space is about 550,000 square feet (51,000 square meters) (DOE 2003b).

Over 60 years of operation, areas within the CMR Building, as well as building systems and equipment have become contaminated, principally with radioactive material. Principal building areas and systems believed to be significantly contaminated are summarized in **Table 2–2**.

Table 2–2 Principal CMR Building Contaminated Areas or Systems

Ventilation System	The exhaust side of the ventilation system is large and contaminated. Most contaminated ductwork is in the basement.
Radioactive Liquid Waste Line	The primary source of CMR Building contamination, this system carries contaminated wastewater to the existing RLWTF at TA-50; it consists of 9,200 feet (2,804 meters) of 5-inch- (13-centimeter-) diameter and 16,100 feet (4,907 meters) of 2.5-inch- (6-centimeter-) diameter stainless steel pipe. It is expected that most of this piping would be transuranic waste, with some portions being mixed transuranic or mixed low-level radioactive waste due to mercury contamination. Also, in areas of leakage there may be contamination in surrounding walls, floors, and adjacent surfaces.
Vacuum Systems	One of the two large vacuum systems in the CMR Building is highly contaminated, while the second, newer, system is expected to have only low levels of contamination.
Walls	Leaks from the radioactive liquid waste line have resulted in contamination within building walls.
Floors	Floor contamination is widespread and ranges from low to high levels. The basement floors have many areas of contamination, some of which have been painted over. Floor contamination in the attic is limited.
Asbestos Pipe Insulation and Floor and Ceiling Tile	Approximately 73,000 feet (22,000 meters) of asbestos pipe insulation have been found in the CMR Building, with another 9,400 square feet (870 square meters) on ducts. Floor tiles (up to 20,000 square feet [1,900 square meters]) and ceiling tiles may also contain asbestos.

CMR = Chemistry and Metallurgy Research; RLWTF = Radioactive Liquid Waste Treatment Facility; TA = technical area.
Source: DOE 2003b.

Of the three CMR Building levels, most of the contamination exists in the basement as summarized below (DOE 2003b):

- **Attic**—Contains primarily facility equipment and is expected to be mostly uncontaminated.
- **Main Floor**—Contains most of the laboratory and office space, with little contamination on the ceilings and increasing potential for contamination toward the floor. About 45 percent of equipment and surfaces are assumed to be contaminated to some degree.
- **Basement**—Contains facility equipment; all equipment and surfaces are assumed to be contaminated to some degree.

The 2003 *CMRR EIS* addressed three disposition options for the CMR Building (DOE 2003b):

- **Disposition Option 1:** Reuse of the building for administrative and other activities appropriate to the physical condition of the structure, with necessary structural and systems upgrades and repairs.
- **Disposition Option 2:** DD&D of some portions of the CMR Building, with other portions reused.
- **Disposition Option 3**: DD&D of the entire CMR Building.

In the ROD for the *CMRR EIS*, DOE decided to implement Disposition Option 3: DD&D of the entire CMR Building (69 FR 6967). This option is assumed for purposes of this *CMRR-NF SEIS*.

2.8.2.1 Decontamination and Demolition Process

The process that would be used to decontaminate and demolish the CMR Building is described in the following text box.[6] Detailed project-specific work plans would be developed and approved by NNSA before work began. These plans would include those requirements for environmental compliance and monitoring. All work would be planned in accordance with established state and Federal laws and

[6] *The decontamination and demolition work elements described in this section are meant to be illustrative, rather than prescriptive.*

regulations, DOE orders, and LANL procedures and best management practices. Waste management and pollution prevention techniques would be implemented.

Decontamination

Radioactive and nonradioactive contamination would be removed using techniques such as vacuum blasting, sand blasting, carbon dioxide bead blasting, scabbling, and mechanical separation of radioactive and nonradioactive materials. Flooring, insulation, and ceiling tiles containing asbestos would be removed, as would paint contaminated with asbestos, lead, and other toxic materials, such as polychlorinated biphenyls. About 50 percent of the asbestos debris is expected to be free of radioactive contamination, while the other 50 percent is expected to require handling as radioactive waste, as would other toxic or hazardous wastes contaminated with radionuclides. Radioactively contaminated debris would be segregated from uncontaminated debris to the extent feasible.

Air emissions generated during decontamination activities would be controlled using tents enclosing highly contaminated areas and high-efficiency particulate air filters to collect contaminated dust particles. Dust suppression techniques would also be used to ensure that particulate emissions are kept to a minimum. Decontamination workers would be protected by personal protective equipment and other engineering and administrative controls.

Worker exposure to ionizing radiation would be controlled in accordance with DOE regulations. The radiological limit for an individual worker is 5,000 millirem per year; however, the maximum dose to a worker involved in operations would be kept well below the DOE Administrative Control Level of 2,000 millirem per year (10 CFR Part 835). At LANL, an additional Notification Action Level of 1,000 millirem per year is imposed and all work is performed to maintain radiation doses as low as reasonably achievable. Occupational safety risks to workers would be mitigated by adherence to Federal and state laws, DOE requirements including regulations and orders, and plans and procedures for performing work. DOE regulations addressing worker health and safety include 10 CFR Part 851, "Worker Safety and Health Program," and 10 CFR Part 850, "Chronic Beryllium Disease Prevention Program." Workers are protected from specific hazards by training, monitoring, use of personal protective equipment, and other engineering and administrative controls.

Demolition

Once the CMR Building is decontaminated, demolition could proceed. All demolition debris would be sent to appropriate recycle or treatment, storage, or disposal facilities. The decontaminated CMR Building is not expected to be technically difficult to demolish and waste debris would be handled, transported, and dispositioned in accordance with standard LANL procedures.

Demolition of uncontaminated portions of the CMR Building would be performed using standard industry practices. A post-demolition site survey would be performed in accordance with the requirements of the *Multi-Agency Radiation Survey and Site Investigation Manual* (NRC/EPA/DOE 2000).

2.8.2.2 Waste Management and Pollution Prevention

Waste management and pollution prevention techniques would be implemented during the demolition of the CMR Building. Some of these techniques could include segregating wastes at the point of generation to avoid mixing and cross-contamination; decontaminating and reusing equipment and supplies; removing surface contamination from items before discarding; avoiding use of organic solvents during decontamination; using impermeable materials such as plastic liners to prevent the spread of contamination; reducing waste volumes using methods such as compaction; and recycling materials such as lead, scrap metals, and stainless steel to the extent practicable.

Decontamination and Demolition Work Elements

Characterization, Segregation of Work Areas, and Structural Evaluation: Walls, floors, ceilings, roof, equipment, ductwork, plumbing, and other building and site elements would be tested to determine the type and extent of contamination present. The Chemistry and Metallurgy Research (CMR) Building would be segregated into contaminated and uncontaminated areas, with contaminated areas being further subdivided by the type of contamination: radioactive materials, hazardous materials, toxic materials including asbestos, and any other Resource Conservation and Recovery Act (RCRA) listed or characteristic contamination. As part of the characterization and segregation of work areas, consideration would also be given to the structural integrity of the CMR Building. Some areas could require demolition work before decontamination.

Removal of Contamination: Workers would remove or stabilize contamination according to the type and condition of materials. If the surface of a wall were found to be contaminated, it might be physically stripped off. If contamination were found within a wall, a surface coating might be applied to keep the contamination from releasing contaminated dust during dismantlement and to keep the surface intact.

Demolition of the CMR Building, Foundation, and Parking Lot: After contaminated materials have been removed, wherever possible and practical, the demolition of all or portions of the CMR Building would begin. Demolition could involve simply knocking down the structure and breaking up large pieces. Knocking down portions of the CMR Building, foundation, and parking lot could require the use of equipment such as backhoes, front-end loaders, bulldozers, wrecking balls, shears, sledge and mechanized jack hammers, cutting torches, saws, and drills. If not contaminated, demolition material could be reused or disposed of as construction waste. Asphalt would be placed in containers and trucked to established storage sites within Los Alamos National Laboratory, at Technical Area 60 on Sigma Mesa.

Segregating, Packaging, and Transport of Debris: Demolition debris from the CMR Building would be segregated and characterized by size, type of contamination, and ultimate disposition. Debris that is radioactively contaminated would be segregated as low-level radioactive waste if no hazardous[1] contamination is present. Radioactively contaminated and uncontaminated asbestos debris would also be segregated. Other types of debris that would be segregated include mixed low-level radioactive waste,[2] uncontaminated construction debris, and debris requiring special handling. Segregation activities could be conducted on a gross scale using heavy machinery or on a smaller scale using hand-held tools. Segregated waste would be packaged as appropriate and stored temporarily, pending transport to an appropriate onsite or offsite facility.

Debris would be packaged for transport and disposal according to waste type, characterization, ultimate disposition, and U.S. Department of Transportation or U.S. Department of Energy transportation requirements. Uncontaminated demolition debris would be recycled or reused to the extent practicable. Nonrecyclable debris would be disposed of by shipment to the Los Alamos County Eco Station or an offsite disposal facility.

Testing and Cleanup of Soil and Contouring and Seeding: The soils beneath the CMR Building would be sampled and tested for contamination. Contaminated soils would undergo cleanup per applicable environmental regulations and permit requirements and would be packaged and transported to the appropriate disposal facility, depending on the type and concentration of contamination. After clean fill and soil are brought to the site as needed, the site would be contoured. Contouring would be designed to minimize erosion and replicate or blend in with the surrounding environment. Subsequent seeding activities would utilize native plant seeds and the seeds of nonnative cereal grains selected to hold the soil in place until native vegetation becomes stabilized.

1 *Hazardous waste is a category of waste regulated under RCRA. Hazardous RCRA waste must exhibit at least one of four characteristics described in 40 Code of Federal Regulations [CFR] 261.20 through 40 CFR 261.24 (ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the U.S. Environmental Protection Agency in 40 CFR 261.31 through 40 CFR 261.33.*

2 *Mixed low-level radioactive waste contains both hazardous RCRA waste and source material, special nuclear material, or byproduct material subject to the Atomic Energy Act.*

Some of the wastes generated from the decontamination and demolition of the CMR Building would be considered residual radioactive material. DOE Order 458.1, *Radiation Protection of the Public and Environment*, establishes guidelines, procedures, and requirements to enable the reuse, recycle, or release of materials that meet established criteria. The residual radioactive material that would be generated by the decontamination and demolition of the CMR Building could include uncontaminated concrete, soil, steel, lead, roofing material, wood, and fiberglass. Concrete material could be crushed and used as backfill at LANL. Soil could also be used as backfill or topsoil cover. Steel and lead could be stored and reused or recycled. Materials such as wood, fiberglass, and roofing materials could be disposed of by transfer to the Los Alamos County Eco Station or to appropriate offsite facilities.

Radioactive liquid waste lines and other equipment or materials categorized as transuranic or mixed transuranic waste would be packaged for disposal at the Waste Isolation Pilot Plant. Radioactively contaminated soil, concrete, walls, and tiles would be packaged as low-level radioactive waste and disposed of off site at the Nevada National Security Site (formerly known as the Nevada Test Site) or at a commercial disposal facility or could be disposed of on site while Area G continues to accept waste. Mixed low-level radioactive waste would be packaged and shipped to offsite commercial and/or DOE treatment, storage, or disposal facilities.

Toxic, hazardous, or other regulated wastes generated during building disposition would be addressed in accordance with LANL's chemical waste management program. Asbestos that is not radioactively contaminated would be packaged according to applicable requirements and shipped to a permitted asbestos disposal facility. Hazardous wastes would be packaged and possibly temporarily stored at TA-54 at LANL until sufficient quantities are accumulated for shipment to offsite treatment, storage, or disposal facilities. All offsite shipments would be transported by a properly licensed and permitted shipper in compliance with U.S. Department of Transportation regulations and DOE standards.

2.8.3 Disposition of the CMRR-NF Under Both CMRR-NF Alternatives

Common to both the No Action Alternative and the Modified CMRR-NF Alternative, disposition of the new CMRR-NF would be considered at the end of its designed lifetime operation of at least 50 years; it would, therefore, likely occur in the last quarter of the twenty-first century. It is anticipated that the impacts from the disposition of the new CMRR-NF would be similar to those discussed for the disposition of the existing CMR Building. However, advances made by DOE in the design and operation of nuclear facilities since the 1950s are expected to result in much lower levels of contaminated waste from DD&D of the CMRR-NF when compared with the existing CMR Building.

2.9 The Preferred Alternative

CEQ regulations require an agency to identify its preferred alternative in the final EIS unless another law prohibits the expression of such a preference (40 CFR 1502.14(e)). The preferred alternative is the alternative that the agency believes would best fulfill its statutory mission, giving consideration to environmental, economic, technical, and other factors. The Modified CMRR-NF Alternative is NNSA's Preferred Alternative for the replacement of the CMR capabilities. NNSA has not identified a preferred construction option at this time. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option.

2.10 Summary of Environmental Consequences

This section summarizes the alternatives analyzed in this *CMRR-NF SEIS* in terms of their expected environmental impacts and other possible decision factors. The following subsections summarize the environmental consequences and risks by construction and operations impacts for each alternative. The RLUOB portion of the CMRR Facility has already been constructed in TA-55. The No Action and the Modified CMRR-NF Alternatives would result in the construction of the CMRR-NF in TA-55, adjacent to RLUOB. Environmental impacts common to all alternatives are also summarized. These include CMR Building and CMRR-NF disposition impacts.

2.10.1 Comparison of Potential Consequences of Alternatives

This section provides an overview of the potential environmental consequences of each alternative. Note that the impacts shown for the No Action Alternative reflect impacts as reported in the *CMRR EIS* for the purpose of comparison with the action alternatives, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. As stated in Section 2.6, the 2004 CMRR-NF could not be constructed to meet the current standards required for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the AC and MC work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need. **Table 2–3**, at the end of this section, presents a comparison of the environmental impacts of each of the alternatives discussed in detail in Chapter 4, including facility construction and operations impacts.

Land Use and Visual Resources

Under the No Action Alternative, 26.75 acres (10.8 hectares) of land in TA-48, TA-50, and TA-55 were expected to be used to support the construction of the CMRR Facility, including about 4 acres (1.6 hectares) for RLUOB, 5 acres (2.0 hectares) for a parking lot, and 4.75 acres (1.9 hectares) for the proposed CMRR-NF. About 7 acres (2.8 hectares) would have been used to support construction laydown areas and the concrete batch plant proposed under this alternative. About 6 acres (2.4 hectares) of land would have been disturbed by the potential need to realign roads to allow adequate distance between the road and the CMRR-NF site. The 2004 CMRR-NF would have blended in with the industrial look of TA-55.

Under the Modified CMRR-NF Alternative, larger amounts of land at LANL would be affected by the Modified CMRR-NF construction effort. Additional land would be needed to provide space for additional laydown and spoils areas due to the larger amounts of construction materials needed to support construction of the larger building and to store greater amounts of excavated materials due to the larger excavation needed to support construction of the Modified CMRR-NF. Also, the Modified CMRR-NF would require up to three concrete batch plants (not operating concurrently). A total of about 128 to 147 acres (52 to 59 hectares) of land would be used under the Deep Excavation Option and a total 108 to 127 acres (44 to 51 hectares) under the Shallow Excavation Option to support the proposed construction effort, including the proposed site of the Modified CMRR-NF. Many project elements would occur in areas presently designated as "Reserve" (this designation is applied to areas of LANL not assigned other specific use categories). Areas of temporary disturbance could be restored to their original land use designation following project completion. The breakdown of land uses to support the Modified CMRR-NF Alternative includes the following:

- Permanent changes to the CMRR-NF site – 4.8 acres (1.9 hectares)
- Temporary changes for construction laydown areas/concrete batch plants in TA-48/55 and TA-46/63 – 60 acres (24 hectares)
- Temporary changes for spoils storage areas inTA-36, TA-51, and TA-54 – Deep Excavation Option, 30 acres (12 hectares); Shallow Excavation Option, 10 acres (4 hectares)
- Temporary changes for a parking lot in TA-72 – up to 15 acres (6.1 hectares)
- Temporary changes for a bus parking lot in TA-48/55 – up to 3 acres (1.2 hectares)
- Temporary power upgrades along TA-5 to TA-55 – 9.1 acres (3.7 hectares)
- Permanent changes for the Pajarito Road realignment in TA-55 – 3.4 acres (1.4 hectares)
- Stormwater detention ponds in TA-48 (temporary), TA-50 (permanent), TA-63 (one temporary and one permanent), TA-64 (permanent), and TA-72 (temporary) – up to 2.5 acres (1.0 hectares)
- Permanent changes for the TA-50 electrical substation – 1.4 acres (0.6 hectares)
- Temporary changes for construction laydown and support in TA-5/52 – 19.1 acres (7.7 hectares)

Permanent land disturbance under the Modified CMRR-NF Alternative would affect about 12 acres (4.9 hectares), including the building site, which was previously disturbed as a result of the geologic investigation of the TA-55 site, the Pajarito Road realignment, the TA-50 electrical substation, and stormwater detention ponds in TA-50, TA-63, and TA-64. The Modified CMRR-NF would blend with the industrial look of TA-55.

Under the Continued Use of CMR Building Alternative, there would be no new impacts in terms of land use or visual impacts at LANL. No construction activities would be undertaken under this alternative, and operations would be conducted in the existing CMR Building.

Site Infrastructure

Under the No Action Alternative, about 0.75 million gallons (2.8 million liters) of water and 63 megawatt-hours of electricity were estimated to be used annually to support the construction of the 2004 CMRR-NF and RLUOB. Annual operations for the 2004 CMRR-NF and RLUOB were estimated to require about 10.4 million gallons (38 million liters) of water and 19,300 megawatt-hours of electricity. Natural gas requirements were not estimated in the *CMRR EIS*. These water and electrical requirements were pre-conceptual design estimates and are now known to be greatly underestimated (see updated estimates in the discussion of the Modified CMRR-NF Alternative).

Under the Modified CMRR-NF Alternative, about 4 million to 5 million gallons (14 million to 17 million liters) of water and 31,000 megawatt-hours of electricity would be used annually for 9 years to support the construction of the Modified CMRR-NF. These water and electrical requirements would fall within the normal annual operating levels of LANL and would not require the addition of any permanent infrastructure at the site. In addition, approximately 19,200 gallons (73,000 liters) of propane would be needed annually to support construction activities for 3 to 6 years. Annual operations for the Modified CMRR-NF and RLUOB are projected to require about 16 million gallons (61 million liters) of water, 161,000 megawatt-hours of electricity, and 58 million cubic feet of natural gas. These requirements are higher than those estimated for the 2004 CMRR Facility due to the increase in the size of the Modified CMRR-NF and the availability of more-accurate estimates. When compared to the available site capacity, operation of the Modified CMRR-NF and RLUOB would require 12 percent of the available water, 31 percent of the available electricity, and 1 percent of the available natural gas. The peak electrical demand estimate of 26 megawatts, when combined with the site-wide peak demand, could exceed the available capacity at the site. Regardless of the decisions to be made regarding the CMRR-NF, adding a third transmission line and/or re-conductoring the existing two transmission lines are being studied by LANL to increase transmission line capacities up to 240 megawatts to provide additional capacity across the site.[7]

Under the Continued Use of CMR Building Alternative, the infrastructure requirements associated with the continued operation of the existing CMR Building would not change from those included in the site's annual usage estimates and are expected to decrease over time as less work can be safely performed in the building.

Operation of RLUOB would require 7 million gallons (26 million liters) of water, 59,000 megawatts of electricity, and 38 million cubic feet (1.1 million cubic meters) of natural gas, annually. These RLUOB requirements apply to all three alternatives considered in this *CMRR-NF SEIS*.

Air Quality and Noise

Under the No Action Alternative, criteria pollutant concentrations were estimated to remain below New Mexico Ambient Air Quality and Clean Air Act Standards during construction of the 2004 CMRR-NF. There were estimated to be slight noise increases associated with construction activities and increased traffic during the construction period. Annual greenhouse gas emissions during the construction period would have been below the draft CEQ guidance threshold for more-detailed evaluation (CEQ 2010), which suggests that proposed alternatives that are reasonably anticipated to emit 25,000 tons or more of direct carbon-dioxide-equivalent air emissions should be further evaluated, and would have made up about 1 percent of site-wide generation based on LANL's 2008 baseline inventory.[8] Under the No Action Alternative, the air quality and noise associated with the operation of the 2004 CMRR-NF and RLUOB would not have exceeded standards. Annual greenhouse gas emissions during the operation of the 2004 CMRR-NF and RLUOB would have been below the CEQ guidance threshold for more-detailed evaluation and would make up about 3 percent of site-wide generation based on LANL's 2008 baseline inventory. Greenhouse gas emissions associated with electricity use during the operation of the 2004 CMRR-NF are estimated to be approximately 12,700 tons of carbon-dioxide equivalent per year (11,500 metric tons of carbon-dioxide equivalent per year); however, the electrical requirement estimated in the 2003 *CMRR EIS* was based on preconceptual design information and is now known to be greatly underestimated.

Under the Modified CMRR-NF Alternative, criteria pollutant concentrations would remain below New Mexico Ambient Air Quality and Clean Air Act Standards during construction of the Modified CMRR-NF under either the Deep or Shallow Excavation Option. There would also be slight noise increases associated with construction activities and increased traffic during the construction period. Annual greenhouse gas emissions during the construction period under either construction option would be below the CEQ guidance threshold for more-detailed evaluation and would be about 7 percent of site-wide generation based on LANL's 2008 baseline inventory. Under the Modified CMRR-NF Alternative, the air quality and noise associated with the operation of the Modified CMRR-NF and RLUOB would not exceed standards. Annual greenhouse gas emissions during operation of the Modified CMRR-NF and RLUOB would be below the CEQ guidance threshold for more-detailed evaluation and would increase site-wide generation by about 25 percent based on LANL's 2008 baseline inventory.

[7] *Evaluated by NNSA in a 2000 environmental assessment,* Environmental Assessment for Electrical Power Systems Upgrades at Los Alamos National Laboratory *(DOE/EA-1247).*

[8] *The projected LANL site-wide greenhouse gas emissions associated with the electrical usage corresponding to the operations selected in the 2008* LANL SWEIS *RODs would be 543,000 tons per year of carbon-dioxide equivalent; the LANL 2008 baseline inventory is 440,000 tons per year of carbon-dioxide equivalent.*

Under the Continued Use of CMR Building Alternative, the air quality and noise associated with operation of the existing CMR Building and RLUOB would not change from the minimal air quality and noise impacts associated with building operations. Applicable New Mexico Ambient Air Quality and Clean Air Act Standards and noise standards would not be exceeded. Annual greenhouse gas emissions during operation of the CMR Building and RLUOB would be below the CEQ guidance threshold for more-detailed evaluation and would increase site-wide generation by about 10 percent based on LANL's 2008 baseline inventory.

Geology and Soils

Under the No Action Alternative, construction in TA-55 would have occurred in the geologic layer above the poorly welded tuff layer. Operation of the 2004 CMRR-NF and RLUOB would not have impacted geology and soils on the site. (See Chapter 4, Section 4.2.10 and Appendix C for a discussion of the impacts of a design-basis earthquake on the CMRR-NF.)

Under the Modified CMRR-NF Alternative, construction of the Modified CMRR-NF in TA-55 would either occur in the layer below the poorly welded tuff layer, which would be excavated and replaced with low-slump concrete (under the Deep Excavation Option), or in the layer above the poorly welded tuff layer (under the Shallow Excavation Option). In addition to the material already removed from the construction site for geologic characterization, another 545,000 cubic yards (417,000 cubic meters) of material would be excavated from the construction site under the Deep Excavation Option and stored in designated spoils areas for future use at LANL. About 236,000 cubic yards (180,000 cubic meters) of material would be excavated from the construction site under the Shallow Excavation Option and would be stored in designated spoils areas for future use at LANL. Operation of the Modified CMRR-NF and RLUOB would not result in any further impacts in terms of geology and soils at LANL.

Under the Continued Use of CMR Building Alternative, geology and soils at LANL would not be affected by operation of the existing CMR Building and RLUOB. However, there are identified fault traces in association with an identified active and capable fault zone lying below some of the wings of the CMR Building that have called into question the ability of the building to survive a design-basis earthquake. These concerns have resulted in reduced operations at the CMR Building. See Chapter 4, Section 4.4.10, and Appendix C for additional information.

Surface-Water and Groundwater Quality

Under the No Action Alternative, construction of the 2004 CMRR-NF in TA-55 would have resulted in the potential for temporary impacts on surface-water quality from stormwater runoff. Appropriate soil erosion and sediment control measures and spill prevention practices would have been implemented to minimize suspended sediment and material transport and reduce potential water quality impacts. Operation of the 2004 CMRR-NF and RLUOB would not have resulted in any direct discharges of liquid effluent to the environment. Nonradioactive effluent would have been sent to the sanitary wastewater system for treatment. Radiological effluents would have been piped directly to RLWTF for treatment. RLWTF does not discharge liquid to the environment.

Under the Modified CMRR-NF Alternative, construction of the Modified CMRR-NF in TA-55 would result in the potential for temporary impacts on surface-water quality from stormwater runoff. Appropriate soil erosion and sediment control measures and spill prevention practices, in accordance with an approved Storm Water Pollution Prevention Plan, would minimize suspended sediment and material transport and reduce potential water quality impacts. One stormwater detention pond would be expanded and five new ponds would be built at LANL: one in TA-64 to collect runoff from the laydown area in TA-48/55, one in TA-63 to collect runoff from the construction laydown and support areas in TA-46/63, one in TA-50 to collect runoff from the facility site during construction and after operations begin, and one in TA-48 and one in TA-72 to collect runoff from the parking areas, should this alternative be implemented. Operation of the Modified CMRR-NF and RLUOB would have no impact on surface-water or groundwater quality. Radiological effluents would be piped directly to RLWTF for treatment.

Under the Continued Use of CMR Building Alternative, surface-water and groundwater quality would not be impacted by operation of the CMR Building and RLUOB. All nonradioactive liquid effluent from the CMR Building is now sent to the sanitary wastewater system under the LANL Outfall Reduction Project, and there is no longer an outfall permitted by the National Pollutant Discharge Elimination System at the building; all radiological effluents would be piped directly to RLWTF for treatment.

Ecological Resources

Under the No Action Alternative, construction sites would have included some recently disturbed areas that were not vegetated due to site disturbance, as well as others that are vegetated. Where construction would have occurred on previously developed land, there would be little or no impact on terrestrial resources. Some construction activities would have also removed some previously undisturbed ponderosa pine forest and might have led to displacement of associated wildlife. (Since the issuance of the 2004 ROD associated with the *CMRR EIS*, activities at the proposed TA-55 site related to RLUOB construction and geological studies have resulted in the elimination of this forest land.) There would not have been any direct or indirect impacts on wetlands or aquatic resources. Portions of the project areas that would have been impacted by this alternative included both core and buffer zones in an area of environmental interest for the federally threatened Mexican spotted owl. Construction of the 2004 CMRR-NF could have removed a small portion of potential habitat area for the Mexican spotted owl; however, no Mexican spotted owls have been observed in the areas of concern under this alternative. Therefore, NNSA determined this project "may affect, [but] is not likely to adversely affect" the Mexican spotted owl and the U.S. Fish and Wildlife Service (USFWS) concurred (see Chapter 5, Section 5.7). Operation of the 2004 CMRR-NF and RLUOB would not have directly affected any endangered, threatened, or special status species. Noise levels associated with the facility would have been low, and human disturbance would have been similar to that which already occurs within TA-55.

Under the Modified CMRR-NF Alternative, construction-related areas include larger areas than those that would be impacted under the No Action Alternative (up to 147 acres [59 hectares] compared to 26.75 acres [10.8 hectares]). Where construction would occur on previously developed land, there would be little or no impact on terrestrial resources. Within areas of undeveloped ponderosa pine forest and pinyon-juniper woodland, about 5 acres (2 hectares) would be permanently disturbed and 110 to 119 acres (40 to 48 hectares) would be temporarily disturbed. Most of these areas are within or adjacent to developed land or land that has been previously disturbed. Construction on undeveloped land in TA-72 and spoils storage areas would cause loss of some wildlife habitat, but would be timed to avoid disturbance of migratory birds during the breeding season (June 1 through July 31). Under the Deep Excavation Option, only wetlands located in TA-36 could be potentially indirectly affected, due to possible stormwater runoff and erosion into the Pajarito watershed from spoils storage in the area. This may also indirectly affect, due to erosion concerns, potential southwestern willow flycatcher habitat that lies adjacent to the potentially impacted area in TA-36. No willow flycatchers of the southwestern subspecies have been confirmed on LANL. A sediment and erosion control plan would be implemented to control stormwater runoff during construction, preventing impacts on the wetlands located farther down Pajarito Canyon and potential southwestern willow flycatcher habitat. Under the Shallow Excavation Option, there would be no direct or indirect impacts on any LANL wetlands or potential southwestern willow flycatcher habitat. Portions of TA-55 and other technical areas affected by construction under the Modified CMRR-NF Alternative include potential habitat for the Mexican spotted owl, falling within both core and buffer zones in an area of environmental interest. Previously undisturbed land in TA-5/52 used for a construction laydown and support area would impact 9.7 acres (3.9 hectares) of potential core habitat and 12.9 acres (5.2 hectares) of potential buffer habitat for the

Mexican spotted owl. However, no Mexican spotted owls have been observed during annual surveys within any of the areas of concern potentially affected under this alternative. NNSA initiated consultation with the USFWS, as the Federal agency with regulatory responsibility for the Endangered Species Act, in April 2003 regarding the CMRR Facility. As the project has progressed and new areas have been identified for project activities, NNSA performed biological assessments and amended its consultation with the USFWS (see Chapter 5, Section 5.7). NNSA determined, and USFWS concurred, that construction in these potential areas of concern may affect, but is not likely to adversely affect, the Mexican spotted owl or the southwestern willow flycatcher (LANL 2011a:Ecological Resources, 019, 020, 021; see Chapter 5, Section 5.7). All project activities have been reviewed for compliance with the *Threatened and Endangered Species Habitat Management Plan* (LANL 2011c). In accordance with the plan, annual surveys are performed to determine the location of any special status species and to determine whether any additional consultation with USFWS is necessary. Additionally, in accordance with the *Sensitive Species Best Management Practices Source Document, Version 1* (LANL 2010h), best management practices would be implemented for project activities to reduce risks to sensitive state-listed species. Operation of the Modified CMRR-NF and RLUOB is not expected to adversely affect any endangered, threatened, or special status species. Noise levels associated with operating the facility would be low, and human disturbance would be similar to that which already occurs within TA-55.

Under the Continued Use of CMR Building Alternative, ecological resources would not be impacted by operation of the CMR Building and RLUOB because no new areas would be disturbed under this alternative, and no emissions from the building are expected to adversely impact ecological resources.

Cultural and Paleontological Resources

Under the No Action Alternative, project elements would have had the potential to impact cultural resources sites eligible for listing in the National Register of Historic Places; however, no impacts would have been expected to occur through avoidance. All cultural sites would have been clearly marked and fenced to avoid direct or indirect disturbance by construction equipment and workers. If cultural resources sites had been discovered during construction, work would have been stopped and appropriate assessment, regulatory compliance, and recovery measures, including consultation with the State Historic Preservation Officer, would have been undertaken.

Under the Modified CMRR-NF Alternative, Deep Excavation Option, nine technical areas with 31 cultural resources sites eligible for listing in the National Register of Historic Places would be in the vicinity of project activities. In all cases, there would be no effect on these sites through avoidance. Project personnel would work with LANL cultural resources staff to relocate a portion of a cultural resources site access trail that would be impacted by construction of the TA-72 parking lot. Under the Shallow Excavation Option, 16 fewer cultural resources sites could be affected than under the Deep Excavation Option because only TA-5/52 and TA-51 would be needed for spoils storage. All cultural sites would be clearly marked and fenced to avoid direct or indirect disturbance by construction equipment and workers. If cultural resources sites are discovered during construction, work would be stopped and appropriate assessment, regulatory compliance, and recovery measures, including consultation with the State Historic Preservation Officer, would be undertaken.

Under the Continued Use of CMR Building Alternative, cultural resources would not be impacted by operations of the CMR Building and RLUOB.

Socioeconomics

Under the No Action Alternative, an increase in construction-related jobs and businesses in the region surrounding LANL would have been expected. Construction employment, over the course of the

34-month construction period, was projected to peak at about 300 workers. Operation of the 2004 CMRR-NF and RLUOB was estimated to employ about 550 existing workers at LANL.

Under the Modified CMRR-NF Alternative, an increase in construction-related jobs and businesses in the region surrounding LANL is also expected. Construction employment would be needed over the course of a 9-year construction period under either the Deep or Shallow Excavation Option. Construction employment under either option is projected to peak at about 790 workers, which is expected to generate about 450 indirect jobs in the region. Operation of the Modified CMRR-NF and RLUOB would involve about 550 workers at LANL, with additional workers using the facility on a part-time basis. The personnel working in the Modified CMRR-NF and RLUOB, when fully operational, would relocate from other buildings at LANL, including the existing CMR Building, so an increase in the overall number of workers at LANL is not expected.

Under the Continued Use of CMR Building Alternative, about 210 employees would continue to work in the CMR Building until safety concerns force additional reductions in facility operations. In addition, about 140 employees would be employed at RLUOB. A total of about 350 personnel would have their offices relocated to RLUOB. The personnel working in the CMR Building and RLUOB, when fully operational, would not result in an increase in the overall number of workers at LANL.

Human Health Impacts – Normal Operations

The projected human health impacts from normal operations under all of the alternatives analyzed in this SEIS were compared to the impacts included in the 2008 *LANL SWEIS* and were found to be consistent with the incremental impacts associated with CMR operations or the proposed CMRR operations included in the SWEIS. The impacts associated with any of the alternatives included in this SEIS are a small fraction of the impacts associated with overall LANL operations, as estimated in the *LANL SWEIS*. For example, the largest estimated annual population dose associated with any of these alternatives, 1.9 person-rem under the No Action Alternative, would be approximately 6 percent of the total estimated annual population dose from normal LANL operations under the No Action Alternative in the *LANL SWEIS*.

Under the No Action Alternative, the annual projected population dose to persons residing within 50 miles (80 kilometers) of the CMRR Facility in TA-55 would have been about 1.9 person-rem,[9] which would have increased the annual likelihood of a single latent cancer fatality in the population by 1×10^{-3} or 1 in 1,000. The *CMRR EIS* used 2000 census data to estimate the population surrounding the facility (about 309,000).[10] The average individual would have received a dose of 0.0063 millirem annually.[11] This would have equated to an average annual individual risk of developing a latent cancer fatality of about 4×10^{-9}, or 1 chance in 250 million. The maximally exposed individual (MEI) would have received a projected dose of 0.33 millirem annually. This would have equated to an annual risk to the MEI of developing a latent cancer fatality of about 2×10^{-7}, or 1 chance in 5 million. The total annual projected worker dose for the 2004 CMRR-NF and RLUOB would have been about 61 person-rem for the

[9] *Doses shown for the No Action Alternative from the* CMRR EIS *were based on internal dose conversion factors from Federal Guidance Report 11 (EPA 1988) that were used in the then-current version of GENII, Version 1.485. For the same exposure, doses would be slightly lower using the more-recent Federal Guidance Report 13 (EPA 1993b) factors included in the latest version of GENII, Version 2, which was used to conduct the analysis of the Modified CMRR-NF Alternative.*

[10] *The* CMRR EIS *used data from the 2000 census to estimate the population residing within 50 miles (80 kilometers) of TA-55. The No Action Alternative was not updated because the No Action Alternative is not being evaluated in this* CMRR-NF SEIS *as an alternative that would meet NNSA's purpose and need. The Modified CMRR-NF Alternative projects the population surrounding TA-55 out to 2030 using recent data from the U.S. Census Bureau, including data from the 2010 census (DOC 2011a, 2011b).*

[11] *Average individual dose is calculated by dividing the projected population dose by the population of the affected area. In this case, 1.9 person-rem was divided by 309,000 individuals, equaling an average dose of about 0.0063 millirem per individual. The numbers are not exact due to rounding of the population and the projected population dose.*

radiological workers in the facility. The average radiological worker dose would have been 110 millirem annually. This would have equated to an average annual individual worker risk of developing a latent cancer fatality of about 7×10^{-5}, or approximately 1 chance in 14,000.

Under the Modified CMRR-NF Alternative, the annual projected population dose to persons residing within 50 miles (80 kilometers) of TA-55 would be approximately 1.8 person-rem, which would increase the likelihood of a single latent cancer fatality in the population by 1×10^{-3} or 1 in 1,000 per year. This *CMRR-NF SEIS* projects the population to 2030 (about 511,000) using 2010 census data to estimate population dose. The average individual would receive a dose of 0.0035 millirem annually.[12] This equates to an average annual individual risk of developing a latent cancer fatality of about 2×10^{-9}, or 1 chance in 500 million. The MEI would receive a projected dose of 0.31 millirem annually. This equates to an annual risk to the MEI of developing a latent cancer fatality of about 2×10^{-7}, or 1 chance in 5 million. The total annual projected worker dose for the Modified CMRR-NF and RLUOB would be about 60 person-rem for the radiological workers in the facilities. The average radiological worker dose is projected to be 109 millirem annually. This equates to an average annual individual worker risk of developing a latent cancer fatality of about 7×10^{-5}, or approximately 1 chance in 14,000.

Under the Continued Use of CMR Building Alternative, the human health impacts of normal operations of the CMR Building would be smaller than those associated with either the No Action or Modified CMRR-NF Alternative because of the limited amount of radiological work currently allowed in the building due to the safety concerns associated with the seismic threat to the building, as discussed earlier in this chapter. The annual projected population dose to persons residing within 50 miles (80 kilometers) of TA-3 (projected to be about 502,000 in 2030 using 2010 census data (DOC 2011a, 2011b) would be approximately 0.016 person-rem, which would increase the likelihood of a single latent cancer fatality in the population by 1×10^{-5} or 1 in 100,000 per year. The average individual would receive a dose of 0.000032 millirem annually. This equates to an average annual individual risk of developing a latent cancer fatality of about 2×10^{-11}, or essentially zero. The MEI would receive a projected dose of 0.0023 millirem annually. This equates to an annual risk to the MEI of developing a latent cancer fatality of about 1×10^{-9}, or 1 chance in 1 billion. The total annual projected worker dose for the CMR Building and RLUOB would be about 24 person-rem for the radiological workers in these facilities. The average radiological worker dose is projected to be 68 millirem annually. This equates to an average annual individual worker risk of developing a latent cancer fatality from this dose of about 4×10^{-5}, or approximately 1 chance in 25,000.

Human Health Impacts – Facility Accidents

The accidents associated with the 2004 CMRR-NF have been reevaluated in this *CMRR-NF SEIS* to reflect concerns associated with the ability of the 2004 CMRR-NF to survive the latest estimates of ground acceleration in the event of a design-basis earthquake. Based on an updated probabilistic seismic hazard analysis, it was concluded that a design-basis earthquake with a return interval of about 2,500 years would have an estimated peak horizontal ground acceleration of 0.47 *g* and a peak vertical ground acceleration of 0.51 *g* (LANL 2009b). The estimated peak horizontal and vertical ground accelerations at the time the *CMRR EIS* was prepared were about 0.31 *g* and 0.27 *g*, respectively.[13]

The accident that would have had the highest potential human health risk to the noninvolved worker, located at the TA-55 boundary, and members of the public was determined to be a seismically induced

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[12] The projected population dose of 1.8 person-rem was divided by 511,000 individuals, equaling an average dose of about 0.0035 millirem per individual.

[13] The return period for the obsolete peak horizontal and vertical ground accelerations of 0.31 and 0.27, respectively, was 2,000 years; the return interval for the current design-basis earthquake at TA-55, with peak horizontal and vertical ground accelerations of 0.47 g and 0.51 g, respectively, is 2,500 years.

spill. The frequency of such an accident was estimated to range from once every 10,000 years to once every 100 years. A design-basis earthquake would have resulted in an unacceptable risk of developing a fatal cancer in the population surrounding the facility if the 2004 CMRR-NF were constructed and operated as originally envisioned in the *CMRR EIS* because it would not be expected to survive a design-basis earthquake of the magnitude included in the latest probabilistic seismic hazard analysis. The annual risk of developing a single fatal cancer in the population from this accident would have been 0.8, or an 80 percent chance of a latent fatal cancer. As a result, latent cancer fatalities would have been expected to occur in the surrounding population if the 2004 CMRR-NF were built and operated as originally envisioned and a design-basis earthquake occurred at LANL. The annual risk of a latent cancer fatality to the offsite MEI would have been 7×10^{-3} from a design-basis earthquake-induced spill, or about 1 chance in 143 per year of facility operation. The risk of a latent cancer fatality to a noninvolved worker would have been 0.01, or about 1 chance in 100 per year of facility operation. The risks associated with seismically induced accidents at the 2004 CMRR-NF, if they were to occur, would have exceeded DOE guidelines (DOE-STD-3009) (DOE 2006a) and would have presented unacceptable risks to the public and the LANL workforce.

Under either the Deep Excavation or Shallow Excavation Option, the Modified CMRR-NF would be constructed to survive the design-basis earthquake included in the latest probabilistic seismic hazard analysis without significant damage. Construction of the Modified CMRR-NF would involve the use of larger amounts of structural concrete (150,000 cubic yards [115,000 cubic meters]) and structural steel (560 tons [508 metric tons]) compared to the amounts estimated for the 2004 CMRR-NF (3,194 cubic yards [2,442 cubic meters] of structural concrete and 267 tons [242 metric tons] of structural steel). For a beyond-design-basis earthquake that results in a spill of nuclear materials in the Modified CMRR-NF, the annual risk of a single fatal cancer developing in the population surrounding the facility would be 2×10^{-5} or about 1 chance in 50,000 of a fatal cancer occurring compared to an 80 percent chance under the No Action Alternative. The risk of a latent cancer fatality to the offsite MEI from this accident would be 9×10^{-8} or about 1 chance in 11 million per year of facility operation compared to 1 chance in 143 under the No Action Alternative. The risk of a latent cancer fatality to a noninvolved worker would be 6×10^{-6} or about 1 chance in 160,000 per year of facility operation compared to 1 chance in 100 under the No Action Alternative.

Under the Modified CMRR-NF Alternative, the accident with the highest potential risk to the offsite MEI would be a loading dock spill/fire caused by mishandling material or an equipment failure. The annual risk of a latent cancer fatality to the offsite MEI from this accident would be 2×10^{-7}, or about 1 chance in 5 million. The accident with the highest potential risk to the offsite population would be a beyond-design-basis seismically induced spill of radioactive materials followed by a fire. This accident would present an increased risk of a single latent cancer fatality in the population surrounding the facility of 5×10^{-5} per year, or about 1 chance in 20,000. Statistically, latent cancer fatalities are not expected to occur in the population from these accidents. The maximum risk of a latent cancer fatality to a noninvolved worker would also be from a beyond-design-basis seismically induced spill of radioactive materials followed by a fire. The risk of a latent cancer fatality to the noninvolved worker, located at the TA-55 boundary, from this accident would be 7×10^{-6}, or about 1 chance in 143,000 per year.

The accident with the highest potential risk to the offsite population under the Continued Use of CMR Building Alternative would be a design-basis earthquake or one of lower magnitude that could severely damage the CMR Building, resulting in a seismically induced spill of radioactive materials. The frequency of such an accident was estimated to range from once every 10,000 years to once every 100 years. For this accident, there would be an increased risk of a single latent fatal cancer in the population surrounding the facility of 4×10^{-3} per year. In other words, the likelihood of developing one fatal cancer in the population surrounding the facility would be about 1 chance in 250 per year. Statistically, the radiological risk for the average individual in the population would be small. This accident would present a risk of a latent cancer fatality for the offsite MEI of 1×10^{-5} per year or 1 chance in 100,000 per year. The risk of a latent cancer fatality to a noninvolved worker located at a distance of 300 yards (240 meters) from the CMR Building would be 3×10^{-4}, or about 1 chance in 3,333 per year.

Intentional Destructive Acts

NNSA has prepared a classified appendix to this *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA's strategy for mitigation of environmental impacts resulting from extreme events, including intentional destructive acts, has three distinct components: (1) prevention or deterrence of incidents; (2) planning and timely and adequate response to emergency situations; and (3) progressive recovery through long-term response in the form of monitoring, remediation, and support for affected communities and the environment.

Depending on the intentional destructive acts, the impacts could be similar to the impacts of the accidents analyzed in the *CMRR-NF SEIS*. However, there may be intentional destructive act scenarios for which the impacts exceed those of the accidents analyzed. Analysis of these intentional destructive act impacts provides NNSA with information upon which to base, in part, decisions regarding the construction and operation of the CMRR-NF. The classified appendix evaluates the similarity of scenarios involving intentional destructive acts with those evaluated in the 2008 *LANL SWEIS* and the 2008 *Complex Transformation SPEIS* and presents the potential consequences to a noninvolved worker, an MEI, and the population in terms of physical injuries, radiation doses, and latent cancer fatalities (LCFs). Although the results of the analyses cannot be disclosed, the following general conclusion can be drawn: the potential consequences of intentional destructive acts are highly dependent on the distance to the site boundary and the size and proximity of the surrounding population; the closer and denser the surrounding population, the higher the consequences. In addition, it is generally easier and more cost-effective to protect new facilities because new security and safety features can be incorporated into their design. New facilities can, as a result of design features, better prevent attacks and reduce the impacts of such attacks.

Environmental Justice

Under the No Action Alternative, there would not have been any disproportionately high and adverse environmental impacts on minority or low-income populations due to construction or normal operations of the 2004 CMRR-NF and RLUOB.

Under the Modified CMRR-NF Alternative, the potential impacts on the general population from construction, operations, and transportation would be small, as indicated in the impact analyses presented in Chapter 4, Section 4.3. Additionally, there are not expected to be any disproportionately high and adverse impacts on minority or low-income populations under this alternative. As discussed in Section 4.3.8, there are not expected to be any significant impacts on cultural resources within LANL or surrounding communities, as a result of implementing this alternative. As discussed in Sections 4.3.4 and 4.3.6, there are not expected to be any significant impacts on air or water quality as a result of implementing this alternative during construction or operation. As discussed in Section 4.3.13, there are not expected to be any significant impacts on transportation routes or traffic in the area surrounding LANL during construction or operations as a result of implementing this alternative. A separate analysis was performed on the specific impacts of transporting radioactive materials from LANL to Pojoaque, New Mexico, and from Pojoaque to Santa Fe, New Mexico, transportation routes that include sections through tribal lands. The results of this analysis show that the incident-free population risks are small, at most 2×10^{-5} or 1 chance in 50,000 that the radiological dose to the public from this transportation would result in a latent cancer fatality in the affected population. Similarly, accident risks associated with this transportation on these routes are small, at most 4×10^{-4} or 1 chance in 2,500 that a traffic accident involving one of the trucks would result in a fatality in the affected population. Radiological doses from normal operations to all individuals would be low. Under the Modified CMRR-NF Alternative, the estimated average annual dose to a nonminority individual from operation of the Modified CMRR-NF and RLUOB would be 0.0037 millirem compared to 0.0033 millirem for the average minority individual; the average annual dose to a non-low-income individual would be 0.0036 millirem compared to 0.0027 millirem for the average low-income individual.

A similar analysis was done for individuals living within 5, 10, and 20 miles (8, 16, and 32 kilometers) of TA-55 and the results were largely the same. For the most part, the estimated average annual dose to nonminority and non-low-income individuals would be the same as or higher than the estimated doses to the average minority and low-income individuals (see Section 4.3.11). The only instance where the estimated average annual dose to minority individuals exceeded the estimated average annual dose to nonminority individuals was for those individuals living within 5 miles (8 kilometers) of TA-55 (0.042 millirem compared to 0.039 millirem). In both cases, these doses are very low; the difference in estimated annual dose of 0.003 millirem would be less than 1/1,000 of a percent of the approximately 480 millirem that a person residing near LANL would normally receive annually from background radiation (see Chapter 3, Section 3.11.1).

Under the Continued Use of CMR Building Alternative, the potential impacts on the general population from operations and transportation would be small, as indicated in the impact analyses presented in Chapter 4, Section 4.4. There are no construction impacts under this alternative. There are not expected to be any disproportionately high and adverse impacts on minority or low-income populations under this alternative. As discussed in Section 4.4.8, there are not expected to be any impacts on cultural resources within LANL as a result of implementing this alternative because no land would be disturbed. As discussed in Sections 4.4.4 and 4.4.6, there are not expected to be any significant impacts on air or water quality as a result of implementing this alternative. As discussed in Section 4.4.13, there are not expected to be any significant impacts on transportation routes or traffic in the area surrounding LANL as a result of implementing this alternative. The average annual dose to a nonminority individual from the continued operation of the CMR Building would be 0.000039 millirem compared to 0.000027 millirem for the average minority individual, and the average annual dose to a non-low-income individual would be 0.000034 millirem compared to 0.000019 millirem for the average low-income individual. A similar analysis was done for individuals living within 5, 10, and 20 miles (8, 16, and 32 kilometers) of TA-3 and the results were largely the same. For the most part, the average annual dose to nonminority and non-low-income individuals would be the same or higher than the estimated doses to the average minority and low-income individuals (see Section 4.4.11). The only instances where the estimated average annual dose to minority individuals exceeded the estimated average annual dose to nonminority individuals were for those individuals living within 5 and 10 miles (8 and 16 kilometers) of TA-3 (0.00076 millirem compared to 0.00069 millirem and 0.0005 millirem compared to 0.00048 millirem, respectively). These doses are very low; the difference in estimated annual dose of up to 7×10^{-5} millirem would be 1/7,000 of a percent of the approximately 480 millirem that a person residing near LANL would normally receive annually from background radiation.

Doses under the Continued Use of CMR Building Alternative would be less than those projected under the Modified CMRR-NF Alternative due to the reduced operations in the CMR Building as a result of safety and seismic concerns that are limiting the work that can be safely conducted there.

A special pathways receptor analysis was performed in support of the 2008 *LANL SWEIS*. In this analysis, it was determined that a special pathways receptor who consumed increased amounts of fish, deer, and elk from the areas surrounding LANL, drank surface water and Indian tea (Cota), and consumed other potentially contaminated foodstuffs could receive an additional dose of up to 4.5 millirem per year from these special pathways (see Appendix C, Section C.1.4, of the 2008 *LANL SWEIS* [DOE 2008a]). Doses associated with normal operation of the proposed CMRR-NF would not be expected to increase these doses. Therefore, if the MEI associated with this *CMRR-NF SEIS* were also assumed to be a special pathways receptor, their maximum dose would be up to 4.8 millirem per year (4.5 millirem associated with special pathways and about 0.3 millirem associated with normal operations of the 2004 CMRR-NF or Modified CMRR-NF). This dose is low; it would represent an increase of 1 percent above the approximately 480 millirem that a person residing near LANL would normally receive annually from background radiation. In terms of increased risk of a fatal cancer from the special pathways dose plus the dose from normal operations of the CMRR-NF, it would represent an annual estimated risk of 3×10^{-6} or about 1 chance in 333,000.

Waste Management

Under the No Action Alternative, waste generation from construction of the 2004 CMRR-NF and RLUOB would have been about 578 tons (524 metric tons) and, based on later information from construction of RLUOB, it is now understood that this number was underestimated. Operation of the 2004 CMRR-NF and RLUOB would have resulted in about 88 cubic yards (67 cubic meters) of transuranic waste, 2,640 cubic yards (2,020 meters) of low-level radioactive waste, 26 cubic yards (20 cubic meters) mixed low-level radioactive waste, and about 12.4 tons (11 metric tons) of chemical waste per year. Operation of the 2004 CMRR-NF and RLUOB would have resulted in about 2.7 million gallons (10 million liters) of low-level liquid radioactive waste annually that would have been treated at RLWTF and 7.2 million gallons (27 million liters) of sanitary wastewater per year that would have been sent to the Sanitary Wastewater Systems Plant. The *CMRR EIS* did not include an estimate for solid waste resulting from operations.

Under the Modified CMRR-NF Alternative, waste generation from construction of the Modified CMRR-NF would be larger than what was estimated for construction of the 2004 CMRR-NF (2,600 tons [2,360 metric tons] compared to 578 tons [524 metric tons]) because the Modified CMRR-NF is a larger facility to address the seismic concerns associated with the 2004 CMRR-NF design, and it is now known that the earlier estimate was underestimated based on the amount of waste generated during construction of RLUOB. Operation of the Modified CMRR-NF and RLUOB would result in the same amount of waste annually as estimated for the No Action Alternative, with the exception of 95 tons (86 metric tons) of solid waste that is included in the estimates for the Modified CMRR-NF and RLUOB. Sanitary wastewater would be sent to the Sanitary Wastewater Systems Plant. Also, due to efforts to reduce the amount of liquid waste being generated as a result of LANL operations, modifications of operations at the Modified CMRR-NF and RLUOB are estimated to result in a much smaller amount of low-level liquid radioactive waste, about 344,000 gallons (1.3 million liters), which would be treated at RLWTF. The amount of radioactive waste generated under this alternative would be consistent with the levels analyzed in the 2008 *LANL SWEIS* and would be a fraction of the annual amount generated at LANL. No additional treatment or disposal facilities would be needed at LANL to handle these wastes.

Under the Continued Use of CMR Building Alternative, annual waste generation rates from operation of the CMR Building and RLUOB would be lower than those estimated under the Modified CMRR-NF Alternative because operations in the CMR Building are currently limited due to safety and seismic concerns. The amount of radioactive waste generated under this alternative would be lower than the levels analyzed in the 2008 *LANL SWEIS* and would be a fraction of the annual estimated waste generated at LANL. No new treatment or disposal facilities would be needed at LANL to handle these wastes.

Transportation and Traffic

Transportation impacts associated with construction of the 2004 CMRR-NF were analyzed in this *CMRR-NF SEIS* to augment the analysis in the 2003 *CMRR EIS*. A transportation impact assessment was conducted in the 2003 *CMRR EIS* for the one-time shipment of SNM during the transition from the existing CMR Building to the CMRR-NF. The public would not have received any measurable exposure.

This *CMRR-NF SEIS* estimated that 489 truck trips would have been required for delivery of construction materials. There would have been no change in the level of service of roadways in the vicinity of LANL during the construction period. Employees currently working at the existing CMR Building and other facilities at LANL would have relocated to the CMRR Facility for operations there. There would have been no impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL over the existing conditions.

Under the Modified CMRR-NF Alternative, transportation requirements associated with construction of the Modified CMRR-NF would be up to 38,000 and 29,000 offsite truck trips (about 4,300 and 3,300 trips per year on average) under the Deep or Shallow Excavation Option, respectively. These trips would be required to deliver construction materials and equipment to LANL in support of the construction effort, as well as offsite trips related to removing construction waste from the site. This number of truck trips is projected to result in up to 3 additional (2.5) truck accidents over the life of the construction project and 0 (0.3) additional fatalities. Operation of the Modified CMRR-NF and RLUOB would result in additional trips off site associated with the transportation of radioactive waste to treatment and disposal facilities. These trips would result in annual doses of about 2.5 person-rem to the crew of the trucks shipping this waste. No latent cancer fatalities are expected among the crews as a result of these doses. The trips would also result in estimated doses of about 0.8 person-rem per year to the public along the transportation routes. No latent cancer fatalities are expected in the public as a result of these doses. These waste shipments are projected to result in less than 1 additional truck accident annually and 0 (7×10^{-3}) additional fatalities. There is a greater chance of structural damage to Pajarito Road under the Modified CMRR-NF Alternative due to the greater total weight of materials that would be transported on the roadway and the longer duration of transports. Pajarito Road may be sufficiently strong to support the transports without damage if the underlying soil is strong. Should damage occur to the roadway surface, Pajarito road may require rehabilitation or repair sooner than currently anticipated. No change in the level of service of roadways in the vicinity of LANL is anticipated during the construction period. Because no net increase in operations employees is anticipated under the Modified CMRR-NF Alternative, there would be no significant impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL.

Under the Continued Use of CMR Building Alternative, there would be no transportation requirements associated with construction. Operation of the CMR Building and RLUOB would result in additional trips off site associated with the transportation of radioactive waste to treatment and disposal facilities. These trips would result in annual doses of about 0.3 person-rem to the crew of the trucks shipping this waste. No latent cancer fatalities are expected among the crews as a result of these doses. The trips would also result in estimated doses of about 0.1 person-rem per year to the public along the transportation routes. No latent cancer fatalities are expected in the public as a result of these doses. These waste shipments are projected to result in less than 1 additional truck accident annually and 9×10^{-4} additional fatalities. The estimates of doses and accidents associated with these shipments are less than those projected under the Modified CMRR-NF Alternative because less waste is generated annually at the CMR Building and RLUOB due to reduced operations at the facility compared to full operation of the Modified CMRR-NF and RLUOB. Since continued CMR Building and RLUOB operations would not result in an increase in the number of employees currently working on the site, no changes in traffic are anticipated. There would be no change in the impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL over the existing conditions.

Table 2–3 Summary of Environmental Consequences of Alternatives

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Land Use and Visual Resources			
Construction	26.75 acres of land would have been used, much of it presently disturbed. Some activities would have occurred on land previously designated “Reserve.” Construction would have altered views along Pajarito Road; however, the road is not open to the public. The breakdown of land uses includes the following: • CMRR-NF site – 4.75 acres • RLUOB site – 4 acres (completed) • Laydown areas/concrete batch plant – 7 acres • Parking lot – 5 acres • Road realignment – 6 acres	Up to 147 acres of land would be used under the Deep Excavation Option and up to 127 acres under the Shallow Excavation Option. Many project elements would occur in areas presently designated as “Reserve.” Construction would alter views along Pajarito Road; however, the road is not open to the public. Areas of temporary disturbance (for example, laydown areas and spoils storage areas) would be restored to their original land use designation following project completion. Restoration of the parking lot in TA-72 would mitigate those long-term visual impacts. The breakdown of land uses includes the following: • CMRR-NF site – 4.8 acres • Laydown areas/concrete batch plants – 60 acres • Spoils areas – 30 acres (Deep Excavation Option), 10 acres (Shallow Excavation Option) • Parking lots – up to 18 acres • Power upgrades – 9.1 acres • Pajarito Road realignment – 3.4 acres • Stormwater detention ponds – 2.5 acres • TA-50 electrical substation – 1.4 acres • Construction support/laydown area – 19.1 acres	Not applicable, no new construction
Operations	Permanent land disturbance would have affected about 13.75 acres, including the building site and parking lot. The new CMRR-NF would have blended with the industrial look of TA-55.	Permanent land disturbance under both the Deep and Shallow Excavation Options would affect about 12 acres, including the building site, the Pajarito Road realignment, the TA-50 electrical substation, and stormwater detention ponds. The road realignment, power substation, and stormwater detention ponds would result in changes in present land use. The new CMRR-NF would blend with the industrial look of TA-55.	No change in current land use

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building; TA = technical area.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA’s purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Note: To convert acres to hectares, multiply by 0.40469.

Resource/Material Category	***No Action Alternative*** [a]	***Modified CMRR-NF Alternative***		***Continued Use of CMR Building Alternative***
Site Infrastructure [b]				
Construction		**Deep Excavation**	**Shallow Excavation**	
Electricity (MW-hours per year)	63	31,000 [c]		Not applicable
Water (million gallons per year)	0.75	5	4	Not applicable
Propane (gallons per year)	Not available	19,200	19,200	Not applicable
Operations				
Electricity (MW-hours per year)	19,300	161,000		59,000 [d]
Natural gas (million cubic feet per year)	Not available	58		38 [d]
Water (million gallons per year)	10.4	16		7 [d]
Air Quality and Noise				
Construction	Criteria pollutant concentrations would have remained below standards. Annual greenhouse gas emissions would have been below CEQ guidance threshold for more-detailed evaluation and about 1 percent of site-wide generation.	Criteria pollutant concentrations would remain below standards. Annual greenhouse gas emissions would be below draft CEQ guidance threshold for more-detailed evaluation and about 7 percent of site-wide generation.		Not applicable
	Slight noise increase to offsite public would have been realized from construction activities and traffic.	Slight noise increase to offsite public would be realized from construction activities and traffic.		Not applicable
Operations	Periodic testing of emergency backup generators would not have caused standards to be exceeded. Annual greenhouse gas emissions would have been below CEQ guidance threshold for more-detailed evaluation and about 3 percent of site-wide generation. No change in noise levels from LANL site operations would have been realized.	Periodic testing of emergency backup generators would not cause standards to be exceeded. Annual greenhouse gas emissions would be below draft CEQ guidance threshold for more-detailed evaluation and about 25 percent of site-wide generation.[e] No change in noise levels from LANL site operations would be realized.		Periodic testing of emergency backup generators would not cause standards to be exceeded. Annual greenhouse gas emissions would be below CEQ guidance threshold for more-detailed evaluation and about 10 percent of site-wide generation. No change in noise levels from LANL site operations would be realized.

CEQ = Council on Environmental Quality; CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; MW = megawatts.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] Site infrastructure estimates for construction and operation have been re-estimated for the Modified CMRR-NF compared to those included in the *CMRR EIS*. Estimates included in the *CMRR EIS* were based on preconceptual design information and are now known to have been underestimated in a number of areas.

[c] Annual site infrastructure estimates for electricity use for the Modified CMRR-NF Alternative round to 31,000 megawatt-hours for both the Deep and Shallow Excavation construction options. Although not apparent due to rounding, the Deep Excavation Option would require more electricity over the life of the alternative for mixing the additional concrete for the layer of low-slump concrete fill.

[d] Operational requirements for the CMR Building are not metered separately and are accounted for in present site usage totals in the infrastructure table in Chapter 3 of this *CMRR-NF SEIS*. Only RLUOB requirements are included in this column to represent the increase in site requirements associated with the Continued Use of CMR Building Alternative.

[e] These greenhouse gases emitted by operations at the Modified CMRR-NF and RLUOB would add a relatively small increment (0.001 percent) to emissions of these gases in the United States.

Note: To convert cubic feet to cubic meters, multiply by 0.028317; gallons to liters, by 3.7854.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Geology and Soils			
Construction	A site survey and foundation study would have been conducted as necessary to confirm site geologic characteristics for facility engineering purposes.	*Deep Excavation Option* – The poorly welded tuff layer would be over-excavated and replaced with concrete fill material. The site would be excavated to a depth of 130 feet; about 545,000 cubic yards of materials remain to be excavated. *Shallow Excavation Option* – Construction would occur in the layer above the poorly welded tuff layer. The site would be excavated to a depth of 58 feet; about 236,000 cubic yards of material remain to be excavated. Under either option, excavated material would be stockpiled for future beneficial reuse.	Not applicable
Operations	There would not have been any impact on geology and soils.	No impact on geology and soils	No impact on geology and soils
Surface-Water and Groundwater Quality			
Construction	Potential temporary impacts could have resulted from stormwater runoff. Appropriate soil erosion and sediment control measures and spill prevention practices would have minimized suspended sediment and material transport and reduced potential water quality impacts.	Same as No Action Alternative, but a larger area of land and additional technical areas would be affected by the construction effort (see Land Use). In addition, under the Deep Excavation Option, control measures would be needed for much larger amounts of excavated spoils. In addition, one stormwater detention pond would be enlarged and five new ponds built to collect runoff during construction.	Not applicable
Operations	No impacts on surface water or groundwater would have been expected.	No impacts on surface water or groundwater.	No impacts on surface water or groundwater

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Note: To convert feet to meters, multiply by 0.3048; cubic yards to cubic meters, by 0.76455.

Resource/Material Category	***No Action Alternative*** [a]	***Modified CMRR-NF Alternative***	***Continued Use of CMR Building Alternative***
Ecological Resources			
Construction	Some vegetation and wildlife habitat would have been removed. Implementation of this alternative may have affected, but would not have adversely affected, the Mexican spotted owl.	*Deep Excavation Option* – Additional habitat loss from use of about five times more land area than under the No Action Alternative. The project may affect, but would not adversely affect, the Mexican spotted owl or the southwestern willow flycatcher. Some project elements may remove a small portion of potential habitat for the Mexican spotted owl. Potential southwestern willow flycatcher habitat may be indirectly affected by stormwater runoff and erosion from spoils storage in the area. *Shallow Excavation Option* – Similar to the Deep Excavation Option; however, slightly less potential habitat would be removed due to the decrease in spoils storage area requirements; potential southwestern willow flycatcher habitat would not be affected.	Not applicable
Operations	None	None	None
Cultural and Paleontological Resources			
Construction/Operations	Resources in affected areas would have been protected by avoidance. Sites would have been protected and monitored to ensure their protection.	Resources in affected areas would be protected by avoidance. Sites would be protected and monitored to ensure their protection.	Not applicable

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Socioeconomics			
Construction	Employment would have resulted in little socioeconomic effect.	Peak direct (790 workers) plus indirect (450 workers) employment would represent a relatively small percentage of the total labor force in the four-county region of influence (less than 1 percent).	Not applicable
Operations	Approximately 550 workers would have been at the CMRR Facility (2004 CMRR-NF and RLUOB); they would have come from the CMR Building and other facilities at LANL so the facility would not have increased employment or changed socioeconomic conditions in the region.	Approximately 550 workers would be at the CMRR Facility (Modified CMRR-NF and RLUOB); they would come from the CMR Building and other facilities at LANL so the facility would not increase employment or change socio-economic conditions in the region.	Approximately 210 workers would continue work at the CMR Building, many of whom would be among the staff members whose offices would be relocated to RLUOB. Another 140 workers would work in RLUOB. Workers would come from the CMR Building and other facilities at LANL so there would not be an increase in employment or a change in socioeconomic conditions in the region.

CMR = Chemistry and Metallurgy Research; CMRR = Chemistry and Metallurgy Research Building Replacement; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative* [b]
Human Health			
Normal Operations			
Offsite population			
Dose (person-rem per year)	1.9	1.8	0.016
Annual population LCF risk	1×10^{-3}	1×10^{-3}	1×10^{-5}
MEI			
Dose (millirem per year)	0.33	0.31	0.0023
Annual LCF risk	2×10^{-7}	2×10^{-7}	1×10^{-9}
Workers			
Worker dose (person-rem per year)	61	60	24
Annual worker population LCF risk	4×10^{-2}	4×10^{-2}	1×10^{-2}
Average worker dose (millirem per year)	110	109	68
Average worker annual LCF risk	7×10^{-5}	7×10^{-5}	4×10^{-5}
Facility Accidents (maximum annual cancer risk [LCFs]) [c]			
Population (risk)	8×10^{-1}	5×10^{-5}	4×10^{-3}
MEI (risk)	7×10^{-3}	2×10^{-7}	1×10^{-5}
Noninvolved worker (risk)	1×10^{-2}	7×10^{-6}	3×10^{-4}

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LCF = latent cancer fatality; MEI = maximally exposed individual.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] The impacts shown for normal operations and facility accidents under the Continued Use of CMR Building Alternative reflect reduced operations at the facility due to safety and seismic concerns.

[c] Facility accident risk values include a dose-to-risk factor of 0.0006 LCFs per rem for population risks and MEI and noninvolved worker doses if less than 20 rem; a dose-to risk factor of 0.0012 LCFs per rem for MEI and noninvolved worker doses equal or greater than 20 rem; and the probability of the accident occurring.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Environmental Justice			
Construction/Operations	There would not have been any disproportionately high and adverse environmental impacts on minority or low-income populations due to construction or operations.	Impacts on all individuals would be low. There would be no disproportionately high and adverse environmental impacts on minority or low-income populations due to construction, operations, or transportation. Annual doses to all individuals would be low, and the average individual radiological impacts on members of minority and low-income groups would be less than or comparable to impacts on the average nonminority or non-low-income member of the general population. For the 50-mile (80-kilometer) population: • Average dose to nonminority individual: 0.0037 millirem • Average dose to minority individual: 0.0033 millirem • Average dose to non-low-income individual: 0.0036 millirem • Average dose to low-income individual: 0.0027 millirem	Impacts on all individuals would be low. There would be no disproportionately high and adverse environmental impacts on minority or low-income populations due to operations or transportation. Annual doses to all individuals would be low, and the average individual radiological impacts on members of minority and low-income groups would be less than or comparable to impacts on the average nonminority or non-low-income member of the general population. For the 50-mile (80-kilometer) population. • Average dose to nonminority individual: 0.000039 millirem • Average dose to minority individual: 0.000027 millirem • Average dose to non-low-income individual: 0.000034 millirem • Average dose to low-income individual: 0.000019 millirem

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet the NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative* [b]
Waste Management			
Construction			
Solid waste (tons) [c]	578	2,600	Not applicable
Operations (annual generation rates)			
Transuranic waste (cubic yards)	88	88	8.2
Low-level radioactive waste (cubic yards)	2,640	2,640	310
Mixed low-level radioactive waste (cubic yards)	26	26	4.1
Chemical waste (tons)	12.4	12.4	1.4
Solid waste (tons)	Not available	95	60
Sanitary wastewater (gallons)	7,200,000	10,800,000	5,220,000
Liquid low-level radioactive waste (gallons)	2,700,000 [d]	344,000	163,000

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] The impacts shown for operations under the Continued Use of CMR Building Alternative reflect reduced operations at the facility due to safety and seismic concerns.

[c] The construction waste estimate for the No Action Alternative was based on preconceptual design information and is now known to have been underestimated.

[d] The liquid low-level radioactive waste estimate for the No Action Alternative was based on assumptions and is now known to have been overestimated.

Note: To convert gallons to liters, multiply by 3.7854; tons to metric tons, by 0.90718; cubic yards to cubic meters, by 0.76455.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*		*Continued Use of CMR Building Alternative*
Transportation and Traffic				
Transportation				
Construction				
Offsite truck trips	Not estimated	Deep Excavation Option – 38,000	Shallow Excavation Option – 29,000	Not applicable
Traffic fatalities	Not estimated	Deep Excavation Option – 0.3	Shallow Excavation Option – 0.2	Not applicable
Operations [b] **(based on annual shipment rate)**				
Incident-free				
Public: (person-rem/LCF)				
Total Route	Not estimated [c]	$0.8 / 5 \times 10^{-4}$		$0.1 / 6 \times 10^{-5}$ [d]
LANL to Pojoaque segment		$0.02 / 1 \times 10^{-5}$		$0.003 / 2 \times 10^{-6}$
Pojoaque to Santa Fe segment		$0.04 / 2 \times 10^{-5}$		$0.005 / 3 \times 10^{-6}$
Crew (person-rem/LCF)	Not estimated [c]	$2.5 / 2 \times 10^{-3}$		$0.3 / 2 \times 10^{-4}$ [d]
Transportation accidents				
Public radiological risk	Not estimated [c]	1×10^{-7}		1×10^{-8} [d]
Public traffic fatality risk	Not estimated [c]	7×10^{-3}		9×10^{-4} [d]
Traffic				
Construction	Personnel and materials transportation would have increased traffic on local roads but would not have changed the level of service on these roadways. No abnormal damage to roadway pavement would have been anticipated.	Personnel and materials transportation would increase traffic on local roads but would not change the level of service on these roadways. No abnormal damage to roadway pavement would be anticipated.		Not applicable
Operations	Minimal impact on traffic would have been expected; some traffic that previously terminated in TA-3 would have continued through and proceeded down Pajarito Road to TA-55.	Minimal impact on traffic; some traffic that previously terminated in TA-3 would continue through and proceed down Pajarito Road to TA-55.		No change from current traffic conditions in TA-3.

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; LCF = latent cancer fatality; TA = technical area.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet the NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] LCF values include a dose-to-risk factor of 0.0006 LCFs per rem for crew and public.

[c] The *CMRR EIS* did not include an analysis of the shipment of radioactive waste off site because it was assumed that nearly all of the waste generated from CMRR Facility operations would be able to be disposed of on site at LANL.

[d] The impacts shown under the Continued Use of CMR Building Alternative reflect reduced operations at the facility due to safety and seismic concerns.

Resource/Material Category	*No Action Alternative* [a]	*Modified CMRR-NF Alternative*	*Continued Use of CMR Building Alternative*
Decontamination, Decommissioning, and Demolition (impacts applicable to all alternatives)			
CMR Building (annual based on a 2-year decommissioning, decontamination, and demolition period)			
Waste [b]			
Transuranic (cubic yards)	Not estimated	75	
Low-level radioactive (cubic yards)	16,000	19,000	
Mixed low-level radioactive (cubic yards)	Not estimated	140	
Radioactive liquid waste (gallons)	Not estimated	68,000	
Chemical (tons)	Not estimated	130	
Solid (cubic yards)	20,000	53,000	
Transportation [c, d]			
Incident-free			
Public: (person-rem/LCFs) Total LANL to Pojoaque segment Pojoaque to Santa Fe segment	Not estimated	 $0.4 / 3 \times 10^{-4}$ $0.01 / 1 \times 10^{-5}$ $0.02 / 1 \times 10^{-5}$	
Crew (person-rem/LCFs)	Not estimated	$1.9 / 1 \times 10^{-3}$	
Transportation accidents			
Public radiological risk	Not estimated	1×10^{-7}	
Public traffic fatality risk	Not estimated	4×10^{-2}	
CMRR-NF	Due to the relative sizes of the facilities, waste quantities are expected to be comparable to those for CMR Building decontamination and demolition.		Not applicable

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; LCF = latent cancer fatality.

[a] The impacts shown for the No Action Alternative reflect the impacts analysis in the *CMRR EIS*, with the exception of the facility accident results, which were reanalyzed for this *CMRR-NF SEIS*, and transportation and traffic impacts and greenhouse gas emissions, which were not analyzed in the *CMRR EIS*. This information is provided for purposes of comparing the No Action Alternative with the action alternatives. However, as stated in Section 2.6, the 2004 CMRR-NF would not meet the current standards for a PC-3 facility, and a PC-3 facility is required to safely conduct all of the analytical chemistry and materials characterization work required to support DOE and NNSA mission work. Therefore, the No Action Alternative is not being evaluated in this *CMRR-NF SEIS* as an alternative that would meet the NNSA's purpose and need and, accordingly, the impacts analysis for it is not generally being updated.

[b] The *CMRR EIS* included estimates of the amount of low-level radioactive waste and solid waste expected from decontamination and decommissioning of the CMR Building. Updated waste projections for this effort are included in the estimates for the Modified CMRR-NF and Continued Use of CMR Building Alternatives.

[c] LCF values include a dose-to-risk factor of 0.0006 LCFs per rem for crew and the public.

[d] The *CMRR EIS* did not include an analysis of the offsite shipment of radioactive waste from decontamination and decommissioning of the CMR Building for disposal.

Note: To convert gallons to liters, multiply by 3.7854; tons to metric tons, by 0.90718; cubic yards to cubic meters, by 0.76455.

2.10.2 Environmental Impacts Common to Multiple Alternatives

2.10.2.1 Impacts During the Transition from the CMR Building to the New CMRR-NF and RLUOB

Under the No Action or Modified CMRR-NF Alternative, there would be a transition period during which CMR operations at the existing CMR Building and other locations at LANL would be moved to the new CMRR-NF. Because RLUOB is already constructed, activities that do not rely on the CMRR-NF could be transitioned to RLUOB earlier. During CMRR-NF construction, the CMR Building and RLUOB would be operating. During the 3-year transition, both the CMR Building and the CMRR-NF would be operating, although at reduced levels, while RLUOB operations would continue. At the existing CMR Building, where operational restrictions would remain in effect, operations would decrease as operations move to the new CMRR-NF (beginning in 2014 for the 2004 CMRR-NF and 2020 for the Modified CMRR-NF). At the new CMRR-NF, levels of operations would increase as the facility becomes fully operational. In addition, routine onsite shipment of AC and MC samples would continue to take place while both facilities are operating. With both facilities operating at reduced levels at the same time, the combined demand for electricity, water, and manpower to support transition activities during this period may be higher than what would be required by the separate facilities. Nevertheless, the combined total impacts during this transition phase are expected to be less than the impacts attributed to the level of CMR operations analyzed under the Expanded Operations Alternative in the 2008 *LANL SWEIS.*

Also during the transition phase, the risks for accidents would change at both the existing CMR Building and the new CMRR-NF. At the existing CMR Building, the radiological material at risk and associated operations and storage would decline as material is transferred to the new CMRR-NF. This would have the positive effect of reducing the risk for accidents at the CMR Building. Conversely, at the new CMRR-NF, as the amount of radioactive material at risk and associated operations increase towards full operation, the risk from accidents would increase. However, the improvements in design and technology at the new CMRR-NF would have the positive effect of reducing overall accident risks when compared to the accident risks at the existing CMR Building. Because neither facility would be operating at its full capacity during transition, the expected net effect would be for the risk for accidents at each facility to be lower than the accident risks at either the existing CMR Building or the fully operational new CMRR-NF.

2.10.2.2 CMR Building and CMRR Facility Disposition Impacts

Under all alternatives in this *CMRR-NF SEIS*, the CMR Building would undergo DD&D. CMR Building DD&D would be conducted in a manner protective of all environmental resources, including air quality, surface-water and groundwater quality, ecological and cultural resources, and human health. The CMR Building has been deemed eligible for listing in the NRHP due to its association with important events during the Cold War years and its architectural and engineering significance (Garcia, McGehee, and Masse 2009). In conjunction with the State Historic Preservation Office, NNSA has developed documentation measures to reduce adverse effects on NRHP-eligible properties at LANL. These measures are incorporated into formal memoranda of agreement between NNSA and the New Mexico Historic Preservation Division. Typical memorandum of agreement terms include the preparation of a detailed report containing the history and description of the affected properties; such a report may need to be prepared for the CMR Building prior to any demolition activities.

Because activities at the CMR Building over more than a 50-year period have resulted in areas having varying levels of contamination, DD&D is projected to generate a relatively large annual quantity of radioactive, chemical, and solid wastes, as summarized in Table 2–3. Annual waste generation rates in Table 2–3 may be higher than those that would actually occur because they are based on completing DD&D in 2 years. Nonetheless, the quantities and types of wastes to be generated are expected to be within the capacity of existing waste management systems. Risks associated with transporting DD&D wastes to offsite treatment and disposal facilities are expected to be very small; no fatalities are expected along waste transport routes.

DD&D of the new CMRR-NF would be considered at the end of its lifetime, designed to be 50 years. For either the 2004 CMRR-NF or the Modified CMRR-NF, impacts of DD&D of the CMRR-NF are expected to be comparable to those of DD&D of the CMR Building. Although activities involving radioactive materials that would be performed at the CMRR-NF are similar to those currently performed at the CMR Building, construction and operation of the CMRR-NF would reflect over 50 years of experience in facility design and operation and contamination control, with implementation of pollution prevention and waste minimization practices.

2.10.2.3 Summary of Cumulative Impacts

In accordance with CEQ regulations, a cumulative impacts analysis was conducted for this *CMRR-NF SEIS* that included the incremental impacts of the action added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Based on this analysis, the only area of concern that would be significantly impacted by the actions being considered in this *CMRR-NF SEIS* in combination with other actions would be infrastructure requirements. Implementation of the Modified CMMR-NF Alternative would result in the greatest cumulative infrastructure impacts when added to the projected infrastructure requirements for other LANL activities and the demands of other non-LANL users. In the near term, no infrastructure capacity constraints are anticipated. LANL operational demands to date on key infrastructure resources, including electricity and water, have been below the levels projected in the 2008 *LANL SWEIS* (DOE 2008a) and well within site capacities. For example, actual electric peak load for LANL in 2010 was approximately 69 megawatts compared to the 109 megawatts projected in the 2008 *LANL SWEIS* (LANL 2010a).

Utility requirements to operate the Modified CMRR-NF are higher than those associated with operating either the existing CMR Building (under the Continued Use of CMR Building Alternative) or those estimated for the 2004 CMRR-NF (under the No Action Alternative). Should the utility requirements be fully realized, LANL and Los Alamos County could cumulatively require more than 100 percent of the current electric peak load capacity, 71 percent of its total available electrical capacity, 92 percent of the available water capacity, and 28 percent of the available natural gas capacity. Inclusion of infrastructure requirements associated with the construction of alternatives being analyzed in the *Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste* at LANL could result in an additional increase in the requirements for electric peak load by 3 percent, electricity by 1 percent, and water by less than 1 percent (DOE 2011b).

Of most concern is the potential to exceed peak electric load capacity. However, regardless of the decisions to be made regarding the CMRR-NF, LANL is studying the possibility of adding a third transmission line and/or re-conductoring the existing two transmission lines to increase transmission line capacities from 107 (firm) to 240 megawatts, which would provide additional capacity across the site (LANL 2011a:Infrastructure, 007).

As owner and operator of the Los Alamos Water Supply System, Los Alamos County is now the primary water supplier serving LANL. DOE transferred ownership of 70 percent of its water rights to the county and leases the remaining 30 percent. LANL is currently using approximately 76 percent of its water allotment, and the county is using about 98 percent of its allotment. County concerns about its water availability will be heightened if development plans move forward for additional homes in White Rock and Los Alamos on land that is being conveyed to the county from LANL.

Los Alamos County has implemented a *Conservation Plan for Water and Electricity*. In this plan, the county describes a number of steps it has taken to conserve water, including an effluent reuse washwater system associated with the county's wastewater treatment plant that is estimated to conserve approximately 12 million gallons (45 million liters) annually (LADPU 2010a). Los Alamos County has the right to use up to 390 million gallons (1.5 billion liters) of San Juan-Chama Transmountain Diversion Project water annually and is in the process of determining how best to make this water accessible to the county (LADPU 2010a). Neither the conservation savings nor the San Juan-Chama water has been included in the analysis shown above.

In addition, the use of the Sanitary Effluent Reclamation Facility at LANL may be expanded to include other areas of LANL. Plans are to expand the Sanitary Effluent Reclamation Facility to provide additional treatment to treated effluent from the Sanitary Wastewater Systems Plant to allow the reclaimed water to be used to support the nonpotable water demands for the TA-3 Power Plant, the Metropolis Center for Modeling and Simulation, and the Laboratory Data Communications Center. Such expansions could save millions of gallons of water annually.

CHAPTER 3
AFFECTED ENVIRONMENT

3 AFFECTED ENVIRONMENT

Chapter 3 describes the affected environment at Los Alamos National Laboratory (LANL). This information provides the context for understanding the environmental consequences described in Chapter 4 and serves as a baseline against which any environmental changes brought about by implementing the proposed action can be evaluated. The affected environment at LANL is described for the following impact areas: land use and visual resources; site infrastructure; air quality and noise; geology and soils; surface-water and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; environmental justice; human health; waste management and pollution prevention; and transportation.

3.1 Introduction

In accordance with Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) implementing regulations (40 *Code of Federal Regulations* [CFR] Parts 1500 through 1508) for preparing an environmental impact statement (EIS), the affected environment is “interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.” The affected environment descriptions presented in this chapter provide the context for understanding the environmental consequences described in Chapter 4. They serve as a reference from which environmental changes brought about by implementing the proposed action can be evaluated; the reference conditions are the currently existing conditions and reflect any changes that have occurred since publication of both the *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* (DOE 2003b) and the 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (2008 *LANL SWEIS*) (DOE 2008a). These changes have included a reduction in the size of Los Alamos National Laboratory (LANL) due to the conveyance and transfer of land; closure of the outfall from the Chemistry and Metallurgy Research (CMR) Building; and progress on environmental remediation in accordance with the Compliance Order on Consent.

Within this *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)*, the current affected environment at LANL is described for the following resource areas: land use and visual resources; site infrastructure; air quality and noise; geology and soils; surface-water and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; environmental justice; human health; waste management and pollution prevention; and transportation. Additional detailed information on the existing environmental conditions may be found in the *CMRR EIS* (DOE 2003b) and 2008 *LANL SWEIS* (DOE 2008a).

The National Nuclear Security Administration (NNSA) evaluated the environmental impacts within defined regions of influence (ROIs) for each resource area. The ROIs are specific to the type of effect evaluated, and encompass geographic areas within which any significant impact would occur. For example, human health risks to the general public from exposure to airborne contaminant emissions were assessed for an area within a 50-mile (80-kilometer) radius of the proposed action, while economic effects were evaluated within the Incorporated County of Los Alamos (also informally known as Los Alamos County) and nearby counties in which substantial portions of the site’s workforce reside. Brief descriptions of the ROIs are given in **Table 3–1**; more-detailed discussions are presented in Appendix B.

Table 3–1 General Regions of Influence for the Affected Environment

Environmental Resources	*Region of Influence*
Land Use and Visual Resources	LANL and the areas immediately adjacent
Site Infrastructure	LANL and Los Alamos County for water and electricity
Air Quality and Noise	LANL, nearby offsite areas within local air quality control regions, where significant air quality impacts may occur (air quality); the site, nearby offsite areas and access routes to the site (noise)
Geology and Soils	LANL and nearby offsite areas
Surface-Water and Groundwater Resources	LANL and adjacent surface water bodies and groundwater
Ecological Resources	LANL and adjacent areas
Cultural and Paleontological Resources	LANL and adjacent to the site boundary
Socioeconomics	The counties in which approximately 90 percent of LANL employees reside
Environmental Justice	The minority and low-income populations within 50 miles of LANL
Human Health	The site and offsite areas within 50 miles of LANL
Waste Management and Pollution Prevention	LANL
Transportation	LANL and adjacent areas

LANL = Los Alamos National Laboratory.
Note: To convert miles to kilometers, multiply by 1.6093.

3.2 Land Use and Visual Resources

LANL is located on 37 square miles (23,680 acres [9,583 hectares]) of land in north-central New Mexico (LANL 2011a:LANL Site, 008) (see Chapter 1, Figure 1–1). The site is located 60 miles (97 kilometers) north-northeast of Albuquerque, 25 miles (40 kilometers) northwest of Santa Fe, and 20 miles (32 kilometers) southwest of Española. LANL is owned by the Federal Government and administered by the U.S. Department of Energy (DOE)/NNSA. Portions of LANL are located in Los Alamos and Santa Fe Counties.

3.2.1 Land Use

LANL is divided into 47 contiguous technical areas with location and spacing that reflect the site's historical development patterns, regional topography, and functional relationships (see Chapter 1, Figure 1–2). The various technical areas are used for building sites, experimental areas, and waste disposal locations. In total, about 20 percent of the site is developed, with facilities and structures (LANL 2011a:Data Call Tables, 001); however, major constraints to development exist and include such factors as topography, slope, soils, vegetation, geology and seismology, climate, endangered species, archaeological and cultural resources, and surface hydrology (LANL 2000b). Undeveloped portions of the site provide security, safety, and expansion possibilities for future mission-support requirements.

The *Los Alamos National Laboratory Comprehensive Site Plan 2000: Los Alamos National Laboratory Project Management and Planning* (LANL 2000b) identifies 10 land use categories. These include administration, experimental science, high-explosives research and development, high-explosives testing, nuclear materials research and development, physical/technical support, public/corporate interface, reserve, theoretical/computational science, and waste management (**Figure 3–1**). The 10 land use categories are defined as follows:

- *Administration, Service, and Support*—Administrative functions, nonprogrammatic technical expertise, support, and services for LANL management and employees.

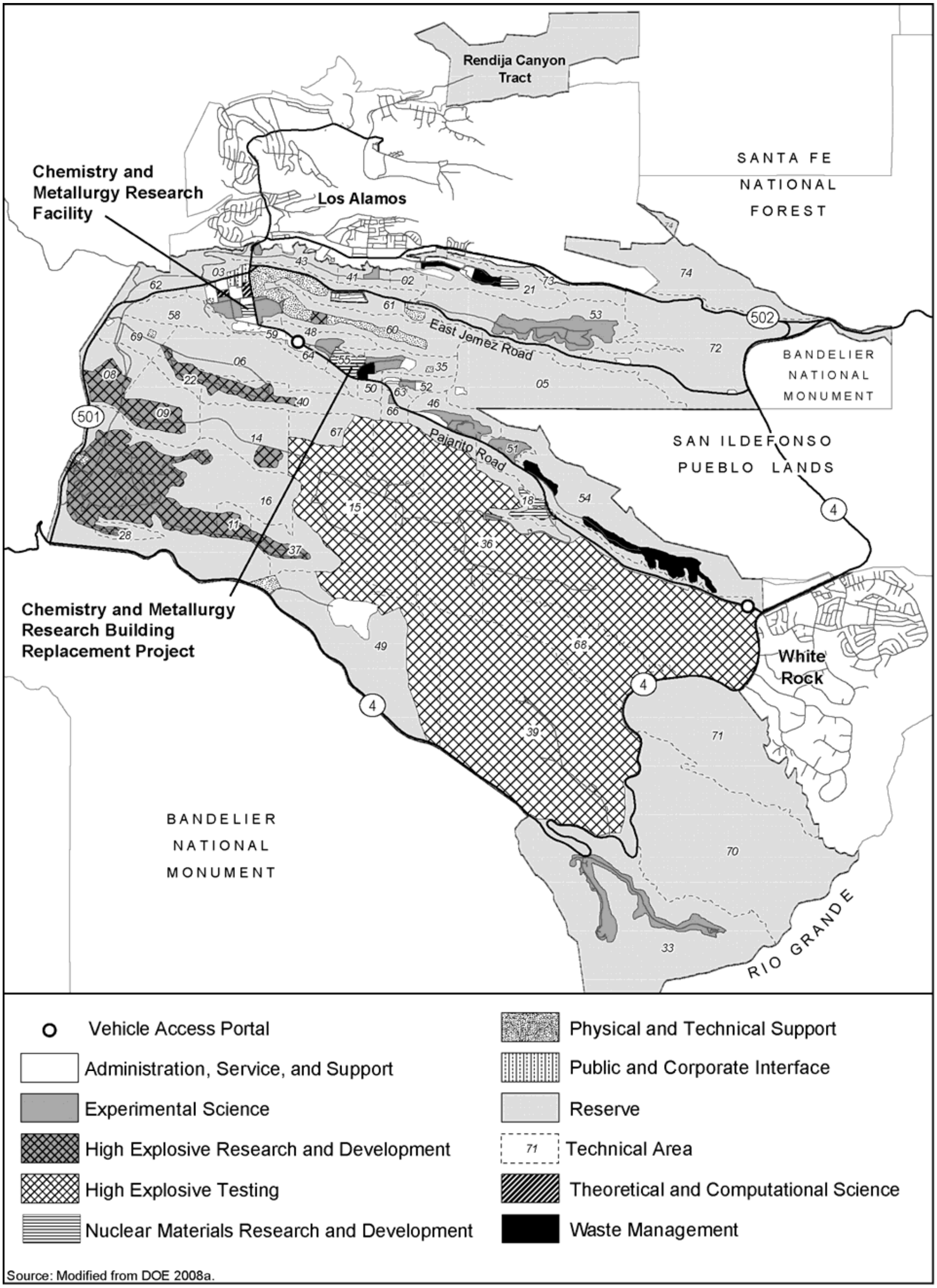


Figure 3–1 Los Alamos National Laboratory Site-Wide Land Use

- *Experimental Science*—Applied research and development activities tied to major programs.
- *High-Explosives Research and Development*—Research and development of new explosive materials. This land is isolated for security and safety.
- *High-Explosives Testing*—Large, isolated, exclusive-use areas required to maintain safety and environmental compliance during testing of newly developed explosive materials and new uses for existing materials. This land also includes exclusion and buffer areas.
- *Nuclear Materials Research and Development*—Isolated, secured areas for conducting research and development involving nuclear materials. This land use includes security and radiation hazard buffer zones. It does not include waste disposal sites.
- *Physical and Technical Support*—Includes roads, parking lots, and associated maintenance facilities; infrastructure such as communications and utilities; facility maintenance shops; and maintenance equipment storage. This land use generally is free from chemical, radiological, or explosives hazards.
- *Public and Corporate Interface*—Provides link with the general public and other outside entities conducting business at LANL, including technology transfer activities.
- *Reserve*—Areas that are not otherwise included in one of the other categories. It may include environmental core and buffer areas, vacant land, and proposed land transfer areas.
- *Theoretical and Computational Science*—Interdisciplinary activities involving mathematical and computational research and related support activities.
- *Waste Management*—Provides for activities related to the handling, treatment, and disposal of all generated waste products, including solid, liquid, and hazardous materials (chemical, radiological, and explosive).

In 1977, DOE designated LANL as a National Environmental Research Park for use by the national scientific community as an outdoor laboratory to study the impacts of human activities on pinyon-juniper woodland ecosystems (DOE 1996b). In 1999, the 1,000-acre (405-hectare) White Rock Canyon Reserve, located on the southeast perimeter of LANL, was dedicated to preserve its significant ecological and cultural resources (LANL 2000a). In 2000, land on and to the north and west of the site was affected by the Cerro Grande Fire. The fire burned a total of 43,150 acres (17,462 hectares), of which 7,684 acres (3,110 hectares) were within the boundaries of LANL (DOE 2002d). On June 26, 2011, the Las Conchas Fire began as a result of a wind-thrown tree striking and shorting out a power line, burning southwest, west, north, and northwest of LANL. As of July 20, 2011, 156,590 acres (63,370 hectares) had been burned, including 118 acres (47.8 hectares) on LANL, most of which was an intentional back-burn (LANL 2011a:LANL Site, 029; USDA 2011).[1] There are no agricultural activities on the LANL site, nor are there any prime or unique farmlands present as defined in the Farmland Protection Policy Act of 1981 located within the Incorporated County of Los Alamos (NRCS 2011).

As a result of the passage of Public Law 105-119, Section 632, 10 tracts on LANL were designated for possible conveyance from DOE to the Incorporated County of Los Alamos or to the Department of the

[1] *Back-burning is a way of reducing the amount of flammable material during a wildfire by starting small fires along a manmade or natural firebreak in front of a main fire front. The basic purpose of back-burning is so that there is little material that can burn when the main fire reaches the burnt area.*

Interior to be held in trust for the Pueblo of San Ildefonso by 2007 (DOE 2008a). This program was analyzed in the *Final Environmental Impact Statement for the Conveyance and Transfer of Certain Land Tracts Administered by the U.S. Department of Energy and Located at the Los Alamos National Laboratory, Los Alamos and Santa Fe Counties, New Mexico* (DOE 1999c). Due to changes in the program, the total acreage designated for conveyance or transfer is now estimated to be 4,309 acres (1,744 hectares) and the completion date is 2022. To date 2,441 acres (988 hectares) have been conveyed or transferred to either the county or the Secretary of the Interior, in trust for San Ildefonso Pueblo (LANL 2011a:LANL Site, 008, 009).

Land use in the LANL region is linked to the economy of northern New Mexico, which depends heavily on tourism, recreation, agriculture, and the state and Federal governments. Area communities are generally small, including the Los Alamos townsite and White Rock, which are home to about 11,000 and 7,000 residents, respectively, and primarily support urban uses, including residential, commercial, light industrial, and recreational. The region also includes Native American communities; lands of the Pueblo of San Ildefonso share a border with LANL on its east side, while the Santa Clara and Pojoaque Pueblos are located approximately 20 miles (32 kilometers) to the northeast and east, respectively. Numerous other pueblos are also located in the Los Alamos area (DOE 2008a). Major governmental bodies that serve as land stewards and determine land uses within Los Alamos and Santa Fe Counties include county governments, DOE, the U.S. Department of Agriculture (U.S. Forest Service, Santa Fe National Forest), the U.S. Department of the Interior (National Park Service, Bandelier National Monument, and the Bureau of Land Management [BLM]), the State of New Mexico, and several Native American pueblos. Bandelier National Monument and Santa Fe National Forest border LANL primarily to the southwest and northwest, respectively; however, small portions of each also border the site to the northeast.

Land use within Los Alamos and Santa Fe Counties is controlled by the counties' comprehensive plans. LANL is designated as "Federal" in the Los Alamos County Plan (DOE 2008a). The Santa Fe County Plan designates LANL as "Agricultural and Residential"; there are no agricultural activities on the site, nor are there any residential uses on LANL property (DOE 2003b). However, the privately owned Royal Crest Trailer Park, located along East Jemez Road, is surrounded by TA-61. Although the county governments have no jurisdiction over Federal lands, they seek Federal cooperation to achieve the goals set forth in their comprehensive plans.

Table 3–2 provides information on the technical areas of concern considered for the analysis of impacts across the three alternatives analyzed in this SEIS. The table provides the following information for each technical area: a description, land use categories present, and total acreage.

3.2.2 Visual Resources

The topography of northern New Mexico is rugged, especially in the vicinity of LANL. Mesa tops are cut by deep canyons, creating sharp angles in the landform. In some cases, slopes are nearly vertical. Often, little vegetation grows on these steep slopes, exposing the geology, with contrasting horizontal planes varying from fairly bright reddish orange to almost white in color. A variety of vegetation occurs in the region, the density and height of which may change over time and can affect the visibility of an area within the LANL viewshed. Undeveloped lands within LANL have a BLM Visual Resource Contrast rating of Classes II and III. Management activities within these classes may be seen, but should not dominate the view. The contrast rating system was developed by BLM as a guide for evaluating the visual impacts of a project (BLM 1986).

Table 3–2 Technical Areas of Concern

Technical Area	*Technical Area Description*	*Land Use Category*
3	The main technical area housing approximately half of the LANL employees and about half of its floor space. Site of the present Chemistry and Metallurgy Research Building facility. The area is nearly completely developed.	Administration, Service, and Support; Experimental Science; Nuclear Materials Research and Development; Public and Corporate Interface; Reserve; Theoretical and Computational Science
5	Contains five physical support facilities, an electrical substation, and test wells, as well as archaeological sites and environmental monitoring and buffer areas. The area is largely undeveloped and includes vegetated mesas and canyons.	Administration, Service, and Support; Reserve
36	Contains four active sites that support explosives testing. The area is largely undeveloped, with predominantly natural vegetation.	High-Explosives Testing
46	Supports basic laboratory research and site of the Sanitary Wastewater Systems Plant. The central and southeastern portions of the technical area are highly developed, while the remainder is forested.	Administration, Service, and Support; Experimental Science; Reserve
48	Supports research in nuclear and radiochemistry, geochemistry, production of medical isotopes, and chemical synthesis. The central portion of the technical area is developed. Remaining portions of the mesa top are open or sparsely vegetated, and Mortandad Canyon is largely forested.	Experimental Science; Reserve
50	Contains 33 waste support structures. Much of the technical area is developed or disturbed grassland. The southern portion of the technical area within Twomile Canyon is forested.	Reserve
51	Used for research and studies on the long-term impact of radioactive materials on the environment. Development within the technical area is scattered; the north wall of Pajarito Canyon is the most heavily vegetated area.	Experimental Science; Reserve
52	Supports theoretical and computational research and development. The central portion of the technical area is developed; the remainder is largely vegetated, especially the south wall of Mortandad Canyon	Administration, Service, and Support; Experimental Science; Reserve
54	Supports management of radioactive solid and hazardous chemical wastes. Some development and open fields occur in the western portion of the technical area; remaining areas are largely vegetated.	Waste Management; Reserve
55	Supports research of and applications for the chemical and metallurgical processes of recovering, purifying, and converting plutonium and other actinides into many compounds and forms, as well as research into material properties and fabrication of parts for research and stockpile applications. The technical area is largely developed; only the south wall of an extension of Mortandad Canyon has significant vegetative cover.	Nuclear Materials Research and Development; Reserve
63	Contains physical support facilities, a trailer, and transportable office space. The mesa-top portion of this technical area is largely developed; however, the south-facing wall of Twomile Canyon and north-facing wall of Mortandad Canyon are forested.	Administration, Service, and Support/Experimental Science; Reserve
64	Contains Central Guard Facility, office and storage space for the Hazardous Materials Response Team, as well as several storage sheds and water tanks. Development and open fields dominate the mesa top within this technical area; however, the south-facing wall of Twomile Canyon is forested.	Administration, Service, and Support; Reserve
72	Contains the live firing range used by LANL protective force personnel for required training, as well as a truck inspection station. The area is sparsely developed and remains largely in a natural vegetated state.	Administration, Service, and Support; Reserve

LANL = Los Alamos National Laboratory.
Note: To convert acres to hectares, multiply by 0.40469.
Source: DOE 2008a.

For security reasons, much of the development within LANL, which is generally austere and utilitarian, has occurred out of the public's view. Passing motorists or nearby residents can see only a small fraction of what is actually there. Prior to the 2000 Cerro Grande Fire, the view of most LANL property from many stretches of area roadways was that of woodlands and brushy areas. Views from various locations in Los Alamos County and its immediate surroundings were altered by the Cerro Grande Fire. Although the visual environment is still diverse, interesting, and panoramic, portions of the visual landscape are dramatically stark, with the rock layers forming the mountains now visible. Grasses and shrubs initially will replace forest stands and will contribute to the visual contrast between the burned and unburned areas for many years. Since the fire, mechanical thinning of the forests has been in progress within LANL and nearby areas to reduce the existing fuel loads. This tree-thinning process has increased the visibility of industrial and residential areas within LANL and Los Alamos County (DOE 2000). A total of 955 acres (386 hectares) were thinned from 2008 through 2010; an additional 397 acres (161 hectares) will be thinned in 2011 (LANL 2010f).

The most visible developments at LANL are a limited number of very tall structures; facilities at relatively high, exposed locations; or those beside well-traveled, publicly accessible roads. A number of new buildings have been constructed in recent years, including the National Security Sciences Building in TA-3 and the Radiological Laboratory/Utility/Office Building (RLUOB) in TA-55. The National Security Sciences Building is eight stories high and is visible from most locations throughout the Los Alamos townsite. RLUOB is visible from a number of locations throughout LANL and is the key visible structure along Pajarito Road. Many of the older structures on the site have been demolished over the past several years, which has improved the appearance of the built environment. Developed areas within LANL are consistent with a BLM Class IV Visual Resource Contrast rating, in which management activities dominate the view and are the focus of viewer attention (BLM 1986).

At lower elevations, at a distance of several miles away from LANL, the site is primarily distinguishable in the daytime by views of its water storage towers, and white dome storage structures at TA-54. Similarly, the Los Alamos townsite appears mostly residential in character, with its white water storage towers visible against the backdrop of the Jemez Mountains. At elevations above LANL, along the upper reaches of the Pajarito Plateau rim, the view of LANL is primarily of scattered austere buildings and groupings of several-storied buildings. Similarly, the residential character of the Los Alamos townsite is predominantly visible from higher elevation viewpoints. At night, the lights of LANL, the Los Alamos townsite, and the community of White Rock are directly visible from various locations across the viewshed and as far away as the towns of Española and Santa Fe.

Table 3–2 presents a general description of the appearance of the various technical areas that may be affected by actions proposed in this *CMRR-NF SEIS*. In general, development along Pajarito Road decreases toward the east; there is little development to the south of the road. The visual resources along the road generally are consistent with BLM Visual Contrast Ratings of Class III and Class IV. Under a Class III rating, development may attract attention, but the natural landscape dominates; however, under a Class IV rating, development dominates the view and is the major focus of the landscape. However, these views are limited to LANL workers, as the road is closed to the public. When viewed from higher elevations to the west along the upper reaches of the Pajarito Plateau rim, development along Pajarito Road would be most prominent within TA-3 and would become more scattered to the east. Development in the eastern portion of TA-72 (the area of a proposed parking lot) is limited to a shooting range and temporary truck inspection station. Considering the presence of these facilities, the visual resources of this area would be consistent with a BLM Visual Contrast Ratings of Class III.

3.3 Site Infrastructure

Site infrastructure characteristics are summarized in **Table 3–3**. Each infrastructure characteristic is further discussed in the following paragraphs.

Table 3–3 Los Alamos National Laboratory Site-Wide Infrastructure Characteristics

Resource	*Usage* [a]	*Site Capacity*	*Available Capacity*
Transportation			
Roads (miles)	80 [b]	Not applicable	Not applicable
Railroads (miles)	0	Not applicable	Not applicable
Electricity			
Energy (megawatt-hours per year)	LANL 563,000 Other 150,000	1,226,000 [c]	513,000
Peak load demand (megawatts)	LANL 101 Other 23	140 [c]	16
Fuel			
Natural gas (million cubic feet per year)	LANL 1,197 Other 1,018	8,070 [c]	5,860
Water (million gallons per year)	LANL 412 Other 1,241	LANL 542 [d] System Total 1,807	LANL 130 Total 153

LANL = Los Alamos National Laboratory.
[a] Usage values for electricity, fuel and water are shown for fiscal year 2010 or the projected levels of usage included in the 2008 *LANL SWEIS* adjusted for decisions made in the associated Records of Decision, whichever is higher. Other usage is shown when capacity is shared by all Los Alamos County users, including LANL.
[b] Includes paved roads and paved parking areas only.
[c] Capacity values are for the entire service area, which includes LANL and other Los Alamos County users.
[d] Equivalent to DOE's leased water rights.
Note: To convert miles to kilometers, multiply by 1.6093; cubic feet to cubic meters, by 0.0283; gallons to liters, by 3.7853.
A decatherm is equivalent to 1,000 cubic feet.
Values may be rounded.
Source: DOE 2008a; LANL 2011a:Data Call Tables, 001; Infrastructure, 014.

3.3.1 Ground Transportation

About 80 miles (130 kilometers) of paved roads and parking surface have been developed at LANL (see Table 3–3). There is no railway service connection at the site. Local and linking regional transportation systems, including roadways, are detailed in Section 3.13.

3.3.2 Electricity

Electrical service to LANL is supplied through a cooperative arrangement with Los Alamos County, known as the Los Alamos power pool, which was established in 1985. Electric power is supplied to the pool through two existing regional 115-kilovolt electric power lines. The first line (the Norton-Los Alamos line) is owned by DOE and originates from the Norton substation east of White Rock; the second line (the Reeves Line) is owned by the Public Service Company of New Mexico and originates from the Bernalillo-Algodones Substation south of LANL. Both substations are owned by the Public Service Company of New Mexico (DOE 2008a).

Import capacity is now limited only by the physical capability (thermal rating) of the transmission lines, that is, to approximately 110 to 120 megawatts supplied from a number of hydroelectric, coal, and natural gas power generators throughout the western United States (LANL 2011b). In addition, renewable energy sources such as wind farms and solar plantations are providing a small (about 5 percent) but growing percentage of Public Service Company of New Mexico's total power portfolio (DOE 2008a).

In April 2011, Los Alamos County completed construction of the Abiquiu Low-Flow Turbine Hydropower Project. As a result, the low-flow turbine increased energy generation at the Abiquiu facility from 13.8 megawatts to 16.8 megawatts and currently provides additional power to Los Alamos County, including LANL (DOE 2011d).

Within LANL, NNSA operates a natural gas-fired steam and electrical power generating plant at TA-3 (TA-3 Co-Generation Complex or Power Plant), which is capable of generating 27 megawatts from the combustion turbine generator, and up to 10 megawatts from steam-driven turbine generators #1 and #2, for a total of 37 megawatts, all shared by the power pool. However, the two steam-driven turbine generators are currently unavailable and have not been used for several years. A third steam-driven turbine generator is also out of service due to a condenser failure.

The DOE-maintained electric distribution system at LANL consists of various low-voltage transformers at LANL facilities and approximately 34 miles (55 kilometers) of 13.8-kilovolt distribution lines. It also consists of two older power distribution substations, the Eastern Technical Area Substation and the TA-3 Substation, and a new substation built in 2002, the Western Technical Area Substation. This 115-kilovolt (13.8-kilovolt distribution) substation has a main transformer rated at 56 megavolt-amperes or about 45 megawatts. The new substation provides redundant capacity for LANL and the Los Alamos townsite in the event of an outage at either of LANL's two older substations (DOE 2008a).

Electric power availability from the existing transmission system of the power pool is conservatively estimated at 990,000 megawatt-hours, including recent upgrades to the Abiquiu Hydroelectric Facility. The additional 27 megawatts available from LANL via the combustion turbine generator at the TA-3 Co-Generation Complex give the power pool a total electric energy availability of 1,226,000 megawatt-hours. This does not include the megawatts from the unavailable steam-driven turbine generators.

In 2010, the total peak load was 69.23 megawatts for LANL and 23.3 megawatts for the rest of the power pool users. The system peak for fiscal year (FY) 2010 was 82.72 megawatts. A total of 419,908 megawatt-hours of electricity were used at LANL in 2010. Other Los Alamos County users consumed an additional 150,000 megawatt-hours for a power pool total electric energy consumption of 569,908 megawatt-hours. Peak demand and consumption of electricity are below those projected for the level of operations that NNSA selected in the September 2008 and June 2009 *LANL SWEIS* RODs (73 FR 55833 and 74 FR 33232). LANL annual requirements as projected in the *LANL SWEIS*, adjusted for decisions made since then, was 101 megawatts peak demand and 563,000 megawatt-hours.

Historically, year-to-year fluctuations in LANL's total electrical energy use have largely been attributable to Los Alamos Neutron Science Center (LANSCE) operations. Since 2003, an increase in LANL base peak load demand and particularly in base electrical energy use, independent of LANSCE operations, is evident. This is punctuated by the observed spike both in LANL base electrical energy use and in use by other Los Alamos County consumers. Nevertheless, operations at several of the large LANL load centers continue to change, which complicates attempts to forecast future electricity demands.

The need for upgrades and the limitations of the electric transmission lines that deliver electric power to the Los Alamos power pool was documented in the 2008 *LANL SWEIS*. LANL has completed several construction projects to expand and enhance existing power capabilities (LANL 2010a). Additional upgrades are being considered, including construction of a portion of the line from the Norton substation to the Southern Technical Area substation. The existing underground ducts need upgrading to fully realize the capabilities of the Western Technical Area substation and the upgraded Eastern Technical Area substation. Redundant feeders need to be added to critical facilities, and the aging TA-3 substation needs upgrading to complete the 13.8-kilovolt distribution and 115-kilovolt transmission systems. The current CMR Building and RLUOB are served by the TA-3 substation.

3.3.3 Fuel

Natural gas is the primary heating fuel used at LANL and in Los Alamos County. The natural gas system includes a high-pressure main and distribution system to Los Alamos County and pressure-reducing stations at LANL buildings. LANL and Los Alamos County both have delivery points where gas is monitored and measured. In August 1999, DOE sold the 130-mile-long (210-kilometer-long) main gas supply line and associated metering stations to the Public Service Company of New Mexico. This gas pipeline traverses the area from Kutz Canyon Processing Plant south of Bloomfield, New Mexico, to Los Alamos County. Approximately 4 miles (6.4 kilometers) of the gas pipeline are within LANL boundaries. Natural gas is distributed to the point of use via some 42 miles (68 kilometers) of distribution piping (DOE 2008a).

Natural gas used by LANL is currently used for heating (both steam and hot air), with the TA-3 Co-Generation Complex being the principal user of natural gas at the site. About 200 other smaller boilers are maintained at LANL, which are primarily natural gas fired (DOE 2008a). Relatively small quantities of fuel oil are stored at LANL as a backup fuel source for emergency generators.

FY 2010 natural gas consumption for LANL and the Los Alamos service area was 1,104 million cubic feet (31 million cubic meters) and 1,018 million cubic feet (29 million cubic meters), respectively. Total natural gas consumption for LANL remains below that projected for the level of operations that NNSA selected in the September 2008 and June 2009 *LANL SWEIS* RODs (73 FR 55833 and 74 FR 33232). LANL usage projected in the 2008 *LANL SWEIS*, adjusted for decisions made since then, was 1,197 million cubic feet (34 million cubic meters), annually.

Natural gas usage at TA-55 is limited to boilers used for heating. TA-55 is estimated to use approximately 45 million cubic feet (1.3 million cubic meters) of natural gas annually (DOE 2008a).

3.3.4 Water

The Los Alamos County water production system consists of 14 deep wells, 153 miles (246 kilometers) of main distribution lines, pump stations, and storage tanks. The system supplies potable water to all of Los Alamos County, LANL, and Bandelier National Monument. The deep wells are located in three well fields (Guaje, Otowi, and Pajarito). Water is pumped into production lines, and booster pump stations lift this water to reservoir tanks for distribution. Prior to distribution, the entire water supply is disinfected (DOE 2008a).

The system was originally owned and operated by DOE. On September 8, 1998, DOE transferred operation of the system to Los Alamos County under a lease agreement. Under the agreement, DOE retained responsibility for operating the distribution system within LANL boundaries, whereas Los Alamos County assumed full responsibility for ensuring compliance with Federal and state drinking water regulations. DOE retained the right to withdraw an equivalent of about 5,541 acre-feet or 1,806 million gallons (6,840 million liters) of water per year from the main aquifer and its right to purchase a water allocation of 1,200 acre-feet or 391 million gallons (1,480 million liters) per year from the San Juan-Chama Transmountain Diversion Project (DOE 2008a).

On September 5, 2001, DOE transferred ownership of the water production system to Los Alamos County, along with 70 percent (3,879 acre-feet or 1,264 million gallons [4,780 million liters] annually) of the DOE water rights. DOE leased the remaining 30 percent (1,662 acre-feet or 542 million gallons [2,050 million liters] annually) of the water rights to Los Alamos County for 10 years, with the option to renew the lease for four additional 10-year terms. LANL is now considered a Los Alamos County water customer, and DOE is billed and pays for the water LANL uses. The current 10-year agreement (water service contract) with Los Alamos County, includes an escalating projection of future LANL water consumption (DOE 2008a). While the contract does not specify a supply limit to LANL, the water right owned by DOE and leased to Los Alamos County (that is 1,662 acre-feet or 542 million gallons [2,050 million liters] per year) is a target ceiling quantity under which total water consumption at LANL should remain. The distribution system serving LANL facilities consists of a series of reservoir storage tanks, pipelines, and fire pumps. The LANL distribution system is gravity fed with pumps for high-demand fire situations at limited locations (DOE 2008a).

Los Alamos County has signed a contract with the Bureau of Reclamation for accessing up to 391 million gallons (1,480 million liters) of water per year from the San Juan-Chama Transmountain Diversion Project. The water is currently inaccessible while the project completes engineering studies that will lead directly to the environmental clearance, enabling the county to utilize its entire annual allocation of the San Juan-Chama water supply in the most economical and beneficial way (LACBPU 2010). Use of the San Juan-Chama water, along with conservation, is integral to Los Alamos County's Long-Range Water Supply Plan (DOE 2008a).

Water use for LANL and other Los Alamos County users is shown in Table 3–3. In 2010, LANL operations consumed about 412 million gallons (1,560 million liters) of water. This is greater than the 408 million gallons (1.5 billion liters) annual usage projected for the level of operations that NNSA selected in the September 2008 and June 2009 *LANL SWEIS* RODs (73 FR 55833 and 74 FR 33232). In recent years, total and consumptive water use for both LANL and other Los Alamos County users has increased. Water use at LANL has increased by about 10 percent from 2007 to 2010, whereas from 1999 to 2005 water use at the site decreased (LANL 2010e).

NNSA continues to maintain the onsite distribution system by replacing portions of the more-than-50-year-old system as problems arise. The LANL contractor is also in the process of installing additional water meters and a Supervisory Control and Data Acquisition and Equipment Surveillance System on the water distribution system to keep track of water usage and to determine the specific water use for various applications. Data are being accumulated to establish a baseline for conserving water. NNSA has instituted a number of conservation and water-reuse projects, including improvements to the Sanitary Effluent Recycling Facility to reduce potable water usage (DOE 2008a).

3.3.5 High Performance and Sustainable Buildings

NNSA's commitment to the principles of sustainable buildings is evident in several requirements specified in various DOE orders (for example, 413.3B, 436.1). In 2002, the *LANL Sustainable Design Guide* (LANL 2002) was developed to provide a specific planning and design process for creating and meeting site sustainability goals in buildings through energy reduction, indoor environmental quality, water efficiency and quality, and site preservation (LANL 2002). The LANL contractor has incorporated sustainable design into its Engineering Standards Manual, with guidance on siting, circulation, and landscape design, and has hosted sustainable design workshops. The LANL contractor incorporates specific requirements into design/build contracts that are designed to achieve the U.S. Green Building Council's Leadership in Energy and Environmental Design™ (LEED) certification for sustainable design proficiency. Further, the LANL and Sandia National Laboratories contractors have convened a High-Performance Group to share knowledge about sustainable design and lessons learned from ongoing projects. In all cases, security and safety must be priorities in achieving energy goals.

Recently, LANL completed the *Fiscal Year 2011 Site Sustainability Plan, Los Alamos National Laboratory* (LANL 2010e), which sets up specific goals for reduced energy and water use and greenhouse gas reduction. Several strategies and measures are laid out as part of a site-wide, holistic path to achieving sustainability goals.

Of note, LANL recently won the 2010 NNSA Pollution Prevention Award for Best in Class for Sustainable Design/Green Building and the 2010 EStar DOE Environmental Sustainability Award in Recognition of Exemplary Environmental Sustainability Projects and Practices (DOE's highest environmental award). These awards were presented for RLUOB integrated planning, design, procurement, and construction. RLUOB, which is part of the CMRR Project, is expected to be awarded the level of Silver Certified under the LEED for New Construction and Major Renovations (LEED-NC) rating system and will be the first building at LANL to register and participate in the formal process to submit required documentation for review by the U.S. Green Building Council. The CMRR-NF is also registered under the LEED-NC rating system, with many of the same credits anticipated to be achievable. Lessons learned from design and construction of RLUOB from a LEED perspective are already being incorporated into the CMRR-NF and are shared with other LANL planned construction projects.

3.4 Climate, Air Quality, and Noise

3.4.1 Climate

Climate information for an area does not change drastically over time; thus, the information presented in the *CMRR EIS* (DOE 2003b) and *LANL SWEIS* (DOE 2008a) is still applicable. Los Alamos County is a semiarid, temperate mountain climate characterized by seasonable, variable rainfall. Precipitation ranges from 10 to 20 inches (25 to 51 centimeters) per year and precipitation rates within the county decline toward the Rio Grande Valley. The town of Los Alamos is less arid (dry) than the area near the Rio Grande, which is arid continental. Mean temperatures range from 17.4 degrees Fahrenheit (°F) (-8.1 degrees Centigrade [°C]) in January to 80.6 °F (27 °C) in July, with an extreme low temperature of -18 °F (-28 °C) and an extreme high temperature of 95 °F (35 °C). Normal temperatures (30-year mean) in the town of White Rock range from 14.6 °F (-9.7 °C) in January to 85.6 °F (29.8 °C) in July. Temperatures in Los Alamos County vary with altitude, averaging 5 °F (3 °C) higher in and near the Rio Grande Valley, which is 6,500 feet (1,981 meters) above sea level, and 5 to 10 °F (3 to 5.5 °C) lower in the Jemez Mountains, which are 8,500 to 10,000 feet (2,590 to 3,050 meters) above sea level (DOE 2003b).

Precipitation in Los Alamos County during July and August is 36 percent of the annual average value due to thunderstorms. Los Alamos County averages 60 thunderstorms per year, with intense and frequent lightning that has caused fires. Local lightning density is estimated at 15 strikes per square mile (5.6 strikes per square kilometer) per year, commonly observed between May and September (LANL 2009a). Flash flooding from heavy thunderstorms in canyons and low-lying areas does occur. Winter precipitation falls as snow, with an average snowfall of 59 inches (150 centimeters). Snowfall levels vary year to year, ranging from 9 inches (23 centimeters) to 153 inches (389 centimeters). Los Alamos County experienced drought conditions from 1998 through 2003, the longest and most severe drought experienced by this area during the last 80 years. Above-average precipitation in 2004 and 2005 helped to restore normal conditions. Precipitation levels were slightly below normal in 2009 (18.6 inches [47.2 centimeters]) (LANL 2010b).

Windspeed averages 7 miles per hour (3 meters per second) in Los Alamos County. Due to storms and cold fronts, windspeeds are lowest in December and January and highest in March through June. Due to the complex terrain surface, winds vary dramatically with time of day, location, and elevation. Generally, an upslope airflow occurs in the morning, with winds shifting from the south over the entire plateau by noon. During the night, winds come from the west-southwest to the northwest over the western portion of the plateau due to cold air drainage off the Jemez Mountains and the Pajarito Plateau (DOE 2008a).

3.4.2 Air Quality

Air quality is determined by the type and amount of the pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The baseline standards for pollutant concentrations are the National Ambient Air Quality Standards (NAAQS) and state air quality standards. These standards represent the maximum allowable atmospheric concentration that may occur and still protect public health and welfare. Based on measured ambient air pollutant concentrations, the U.S. Environmental Protection Agency (EPA) designates whether areas of the United States meet NAAQS. Those areas demonstrating compliance with NAAQS are considered "attainment" areas, while those that are not are known as "nonattainment" areas. Those areas that cannot be classified on the basis of available information for a particular pollutant are "unclassifiable" and are treated as attainment areas.

The State of New Mexico has established ambient air quality standards for the criteria pollutants and total suspended particulates, hydrogen sulfide, and total reduced sulfur (**Table 3–4**). The Clean Air Act gives the authority to states to establish air quality rules and regulations. EPA is the regulating authority for the Clean Air Act; however, EPA has granted the New Mexico Environment Department (NMED) primacy for regulating nonradioactive air emissions under an approved State Implementation Plan. New Mexico has adopted all Clean Air Act regulations as part of the State Implementation Plan, except the National Emission Standards for Hazardous Air Pollutants for radionuclides (40 CFR Part 61), provisions of the Stratospheric Ozone Protection section (40 CFR Part 82), and the Risk Management Program (40 CFR Part 68).

Bi-annual public meetings on the status of the CMRR Project are held as a result of a formal negotiated settlement between NNSA and local public citizens groups. A number of public citizens groups raised concerns with NMED on the air quality construction permit application submitted in February 2005 for RLUOB. As a means of settling raised concerns, an agreement was reached to hold public briefings on the CMRR Project, as well as including the interested groups in the review of future air quality permit submissions. As of March 10, 2011, eleven public meeting have been held. Transcripts of the meetings can be viewed at http://www.lanl.gov/orgs/cmrr/publicmeetings/index.shtml.

Air quality permits have been obtained from the NMED Air Quality Bureau for various activities at LANL, including beryllium operations; open burning of high-explosives waste; and operation of an air curtain destructor, an asphalt plant, a rock crusher, the TA-3 power plant, and the TA-33 generator. Each of these operations was modified or constructed after August 31, 1972. In accordance with Title V of the Clean Air Act and New Mexico Administrative Code 20.2.70, a site-wide operating permit application was submitted to NMED in December 1995. A modified application was submitted in 2005; a renewal application was submitted in 2008. The current approved operating permit was issued in August 2009. The LANL site-wide operating permit has voluntary facility-wide emission limits to ensure that LANL remains a minor stationary source for the purposes of the Prevention of Significant Deterioration Construction Permit Program and the Clean Air Act Title III requirements for hazardous air pollutants. Prior to construction NMED requires air permits for new buildings depending on the design and operation. An application to modify the LANL Title V permit would be submitted to NMED prior to operation of the new facility.

LANL is located within the Upper Rio Grande Valley Intrastate Air Quality Control Region (#157). The area encompassing LANL and Los Alamos County is classified as an attainment area for all six criteria pollutants (40 CFR 81.332). Baseline emissions for the Upper Rio Grande Valley Intrastate Air Quality Control Region utilized in this *CMRR-NF SEIS* are presented in **Table 3–5**. The county data include emissions data from point sources, area sources, and mobile sources. "Point sources" are stationary sources that can be identified by name and location. "Area sources" are point sources of emissions too small to track individually, such as individual homes, small office buildings, or diffuse stationary sources (e.g., wildfires or agricultural tilling equipment). "Mobile sources" are vehicles or equipment with gasoline or diesel engines, e.g., an airplane or a ship. Two types of mobile sources are considered: on-road and nonroad. On-road mobile sources are vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Nonroad mobile sources are aircraft, locomotives, diesel- and gasoline-powered boats and ships, personal watercraft, landscaping equipment, agricultural and construction equipment, and recreational vehicles (for example, snowmobiles) (EPA 2009b).

Table 3–4 Federal and New Mexico State Ambient Air Quality Standards

Air Pollutant	*Averaging Time*	*New Mexico Standards*	*Federal Standards*	
			Primary	*Secondary*
Carbon Monoxide	8-hour 1-hour	8.7 ppm 13.1 ppm	9 ppm 35 ppm	— —
Nitrogen Dioxide	AAM 24-hour	0.05 ppm 0.10 ppm	0.053 ppm —	0.053 ppm —
Sulfur Dioxide	AAM 24-hour 3-hour	0.02 ppm 0.10 ppm —	0.030 ppm 0.140 ppm —	— — 0.50 ppm
Particulate Matter (PM_{10})	AAM 24-hour	— —	50 $\mu g/m^3$ 150 $\mu g/m^3$	50 $\mu g/m^3$ 150 $\mu g/m^3$
Particulate Matter ($PM_{2.5}$) [a]	AAM 24-hour	— —	15 $\mu g/m^3$ 65 $\mu g/m^3$	15 $\mu g/m^3$ 65 $\mu g/m^3$
Total Suspended Particulates	AGM 30-day 7-day 24-hour	60 $\mu g/m^3$ 90 $\mu g/m^3$ 110 $\mu g/m^3$ 150 $\mu g/m^3$	— — — —	— — — —
Hydrogen sulfide	1-hour [c]	0.010 ppm	—	—
Total Reduced Sulfur [b]	½-hour [c]	0.003 ppm	—	—
Ozone	8-hour	—	0.08 ppm	0.08 ppm
Lead	3-month	—	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$

AAM = annual arithmetic mean; AGM = annual geometric mean; PM_n = particulate matter with an aerodynamic diameter less than or equal to *n* micrometers; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

[a] The $PM_{2.5}$ standard was promulgated in January 2005 and will be implemented over the next few years.

[b] Total reduced sulfur does not include hydrogen sulfide.

[c] Entire state except for the Pecos–Permian Air Basin, which includes De Baca, Chaves, Curry, Quay, and Roosevelt Counties.

Source: EPA 2009a; NMAC 20.2.3. 2006.

Table 3–5 Upper Rio Grande Valley Intrastate Air Quality Control Region Emissions

Source Type	*Emissions (tons per year)*				
	Carbon Monoxide	*Nitrogen Oxides*	*PM_{10}*	*Sulfur Dioxide*	*Volatile Organic Compounds*
Area Source	4,608	631	271,212	259	3,943
Nonroad Mobile	13,807	1,416	166	145	1,628
On-Road Mobile	75,197	8,454	214	269	5,306
Point Source	4,119	2,970	266	35	2,652
Total	97,730	13,472	271,858	707	13,530

PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers.

Total may not equal the sum of the contributions due to rounding.

Note: To convert tons to metric tons, multiply by 0.90718.

Source: EPA 2002.

Operations at LANL emit criteria pollutants primarily from combustion sources, such as boilers, emergency generators, and motor vehicles. Emissions at LANL are provided in **Table 3–6**.

Table 3–6 Air Emissions at Los Alamos National Laboratory as Reported in the Los Alamos National Laboratory Title V Operating Permit Emissions Reports

Pollutants	*2008* **LANL SWEIS** *(tons per year)*	*Title V Facility-wide Emission Limits (tons per year)*	*2009 Emissions (tons per year)*
Carbon Monoxide	58	225	33.5
Nitrogen Oxides	201	245	46.6
Particulate Matter	11	120	4.3
Sulfur Oxides	0.98	150	0.7

Note: The Title V Operating Permit Emissions Report includes two categories of sources not required in the annual emission inventory: small, exempt boilers and heaters, and exempt standby emergency generators.
To convert tons to metric tons, multiply by 0.90718.
Source: DOE 2003b, 2008a; LANL 2011b.

The Bandelier Wilderness Area is designated as a Class I area (an area that exceeds 10,000 acres [4,047 hectares]) in accordance with the Clean Air Act, as amended, and New Mexico regulations. This means that facilities located within a 62-mile (100-kilometer) radius of the area must not cause appreciable deterioration in air quality. NMED monitored levels of air pollutants of interest (sulfur dioxide, nitrogen dioxide, ozone, and particulate matter with an aerodynamic diameter less than or equal to 10 microns) at a station adjacent to Bandelier National Monument between 1990 and 1994. Operation of the station was discontinued in 1995 because the recorded values were well below applicable standards. Visibility is considered to be an important value (40 CFR Part 81; 20 New Mexico Administrative Code [NMAC] 2.74]) and requires protection. Visibility has been officially monitored by the National Park Service at Bandelier National Monument since 1988. The visual range has not deteriorated during the period for which data are available (DOE 2003b).

3.4.3 Radiological Releases

Radiological air emissions in 2009 from all LANL technical areas, as well as emissions solely from TA-55, are presented in **Table 3–7**. Uranium releases for the year did not change significantly from releases in 2008. Plutonium releases were higher by a factor of three over previous years. Tritium releases are mainly from TA-16, which accounted for 47.6 curies (62 percent) of the tritium released at LANL over the entire year. Standards for emissions of radionuclides are discussed in Section 3.11.1.

A radiological ambient air-sampling network is fielded in Los Alamos, Santa Fe, and Rio Arriba Counties and is designed to measure levels of airborne radionuclides (plutonium, tritium, and uranium) that may be emitted from LANL operations. Radionuclides emitted from stacks and/or diffuse sources may be captured. The network comprises more than 50 ambient air-sampling stations. Each sampler is equipped with a filter to collect a particulate matter sample (for gross alpha/beta and radiochemical determination) and a silica gel cartridge to collect a water sample (for tritium determination). **Table 3–8** presents the average ambient air concentrations calculated from the field and analytical data for the last 5 years by the type of radioactivity and specific radionuclides.

Table 3–7 Radiological Airborne Releases to the Environment at Los Alamos National Laboratory in 2009

Radionuclide	*LANL (curies)*	*TA-3 (curies)*	*TA-55 (curies)*
Tritium	76.7	—	7.45
Americium-241	2.5×10^{-6}	2.5×10^{-6}	5.1×10^{-10}
Plutonium (includes isotopes -238, -239, -240)	1.3×10^{-5}	1.29×10^{-5}	8.6×10^{-10}
Uranium (includes isotopes -234, -235, -238)	1.1×10^{-5}	1.06×10^{-5}	—
Thorium	2.5×10^{-7}	2.50×10^{-7}	—
Strontium-90	1.62×10^{-7}	2.34×10^{-8}	—
Particulates/vapor activation products	1.4×10^{-2}	—	—
Gaseous/mixed activation products	775	—	—
Total	852	2.6×10^{-5}	7.5

LANL = Los Alamos National Laboratory; TA = technical area.
Note: Dashed lines indicate no measurable releases.
Source: LANL 2010b.

Table 3–8 Average Background Concentration of Radioactivity in the Regional Atmosphere near Los Alamos National Laboratory [a]

Radioactivity (units)	*EPA Concentration Limit [b]*	*2005*	*2006*	*2007*	*2008*	*2009*
Gross Alpha (fCi/m^3) [c]	Not applicable	0.9	1.0	1.0	0.9	1.0
Gross Beta (fCi/m^3) [c]	Not applicable	16	17	19	17	19
Tritium (pCi/m^3)	1,500	0.1	-0.2	0.2	0.8	0.2
Plutonium-238 (aCi/m^3)	2,100	0.1	-0.3	-0.3	0.1	0.4
Plutonium-239, -240 (aCi/m^3)	2,000	0.0	0.1	0.6	-0.1	1.0
Americium-241 (aCi/m^3)	1,900	0.1	0.2	-0.1	-0.3	-0.6
Uranium-234 (aCi/m^3)	7,700	12	17	15	18	17
Uranium-235 (aCi/m^3)	7,100	1.2	0.8	0.8	1.3	0.7
Uranium-238 (aCi/m^3)	8,300	13	16	15	17	16

EPA = U.S. Environmental Protection Agency; aCi = attocuries (10^{-18} curies); fCi = femtocuries (10^{-15} curies); pCi = picocuries (10^{-12} curies); m^3 = cubic meters.
[a] Data from regional air-sampling stations during the last 5 years. Locations can vary by year.
[b] Each EPA limit is from 10 CFR Part 40 and corresponds to 10 millirem per year.
[c] Alpha and beta values are gross air concentrations; all others are net air concentrations.
Note: Some values in the tables indicate measured negative concentrations, which is physically impossible. However, it is possible for measured concentrations to be negative because the measured concentrations are a sum of the true value and all random errors. As the true value approaches zero, the measured value approaches the total random errors, which can be negative or positive and overwhelm the true value. Arbitrarily discarding negative values when the true value is near zero will result in overestimated ambient concentrations.
Source: LANL 2010b.

3.4.4 Greenhouse Gases and Climate Change

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere affects the Earth's temperature. Assessments by the Intergovernmental Panel on Climate Change (IPCC) indicate that the Earth's climate has warmed between 1.08 and 1.62 °F (0.6 and 0.9 °C) over the past century and that it is "very likely" (that is, there is a 90 percent chance) that the effect of human activity on the atmosphere is an important driving factor. In the IPCC Fourth Assessment Report (IPCC 2007), scientists conclude that "most of the observed increase in globally-averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations." The IPCC goes on to state, "The observed widespread warming of the atmosphere and ocean, together with ice mass loss, support the conclusion that it is extremely unlikely that global climate change of the past 50 years can be explained without external forcing, and very likely that it is not due to known natural causes alone."

The six primary GHGs, which are defined in Section 19(i) of Executive Order 13514 and internationally recognized and regulated under the Kyoto Protocol, are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Each GHG has an estimated global warming potential, which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the Earth's surface. To allow GHGs to be compared to each other, each GHG quantity is translated into a common unit called the "carbon-dioxide equivalent." A description of this methodology along with the full list of GHGs and global warming potentials can be found in Appendix B.

NMED prepared the *Inventory of New Mexico's Greenhouse Gas Emissions: 2000-2007* (NMED 2010). The state-wide inventory has been compiled as mandated in State of New Mexico Executive Orders 2005-033 and 2006-69 to provide an update regarding trends of GHG emissions in the state. The inventory reported 85,900,000 tons (78,000,000 metric tons) of carbon-dioxide equivalent in 2000, and 84,000,000 tons (76,000,000 metric tons) of carbon-dioxide equivalent in 2007 for New Mexico. The focus of the report was to provide a top-down inventory; however, some bottom-up data are included. Top-down data (for example, statewide fuel consumption) are used to estimate emissions from a broad cross section of GHG-emitting sources, whereas bottom-up data are estimated from specific emitting unit(s) (for example, a facility with an air permit). The year 2008 marked the first year for which NMED received GHG reporting data from the largest sources of air pollutants that it regulates (that is, sources that are subject to the Title V air permitting program). However, they only required reporting of carbon dioxide. A LANL GHG inventory is shown in **Table 3–9**. As noted in the table, the carbon-dioxide-equivalent inventory at LANL for FY 2008 is 439,673 tons (398,865 metric tons). The inventory focuses on FY 2008 because Executive Order 13514 established greenhouse gas emissions percentage reduction targets for three scoping categories (discussed below) to be reached by FY 2020, using FY 2008 as the baseline.

Scope 1 emissions include direct stationary and mobile sources, as well as direct fugitive emissions from refrigeration or air conditioning equipment owned and controlled by NNSA at LANL, and various other sources of fluorinated gases.

Scope 2 and 3 emissions are defined as indirect greenhouse gas emissions generated outside the boundaries of NNSA's direct control at LANL. Originally, these were defined by the World Resources Institute and the World Business Council for Sustainable Development to avoid double counting emissions. Double counting would occur if two different entities were to report the same emissions. Scope 2 sources account for emissions from the generation of purchased electricity or renewable electricity consumed at LANL. The electricity-generating facility on site, which is currently not operating at full capacity, is owned by LANL, and, therefore, is included under Scope 1 emissions. Scope 3 sources are derived from business travel, employee commutes in vehicles not owned by NNSA at LANL, and municipal solid waste and wastewater treatment.

Table 3–9 Los Alamos National Laboratory Site-Wide Greenhouse Gas Inventory for Fiscal Year 2008

Emissions Scope	*Category*	*Tons Carbon-Dioxide Equivalent*
Scope 1	Sulfur Hexafluoride	6,805
	Hydrofluorocarbon-23	3
	Hydrofluorocarbon-134a	674
	Asphalt Plant	162
	Boilers	31,876
	Permitted Generators	52
	Power Plant	29,931
	Combustion Turbine	1,046
	Standby Generators	240
	Fleet Vehicles	6,714
	Other Onsite Vehicles	1,983
Total Scope 1		**79,485**
Scope 2	Purchased electricity	269,597
	Purchased renewable electricity	9,218
Total Scope 2		**278,814**
Total Scope 1 and 2		**358,300**
Scope 3	Transmission and Distribution Losses	18,671
	Employee Commuting	53,608
	Business Air Travel	9,055
	Municipal Solid Waste	31
	Wastewater Treatment	9
Total Scope 3		**81,374**
Total Scope 1, 2, and 3		**439,673**

Note: To convert tons to metric tons, multiply by 0.90718.
Total may not equal the sum of the contributions due to rounding.
Source: LANL 2011a:Greenhouse Gases, 015.

3.4.5 Noise

Noise is defined as any unwanted sound. Defining characteristics of noise include sound level (amplitude), frequency (pitch), and duration. Each of these characteristics plays a role in determining the intrusiveness and level of impact that noise may have on a receptor, that is, any person, animal, or object that hears or is affected by noise. The standard unit used to report sound pressure levels is the decibel (dB); the A-weighted frequency scale (decibels A-weighted, or dBA) is an expression of adjusted pressure levels by frequency that accounts for human perception of loudness.

Existing noise related to LANL facilities that is detectable by the public comes from a variety of sources, including construction, truck and automobile movements to and from the LANL technical areas, high-explosives testing, and firearms practice by security guards. Non-LANL noise occurring within Los Alamos County is dominated by traffic movement and, to a much lesser degree, other residential-, commercial-, and industrial-related activities. Measurements of nonspecific background ambient noise in the LANL area have been taken at a couple of locations near LANL boundaries next to public roadways. Background noise levels were found to range from 31 to 35 dBA at the vicinity of the entrance to Bandelier National Monument and New Mexico State Route (SR) 4. At White Rock, background noise levels range from 38 to 51 dBA (1-hour equivalent sound level); the slight increase compared to Bandelier National Monument is probably due to higher levels of traffic and the presence of a residential neighborhood, as well as the different physical setting (DOE 2003b).

Peak noise levels from LANL operations are represented by the detonation of high explosives. The higher-frequency, audible air pressure waves that accompany detonation of explosives can be heard by both workers and the area public. The lower-frequency air pressure waves are not audible, but may cause secondary and audible noises within a testing structure that may be heard by personnel.

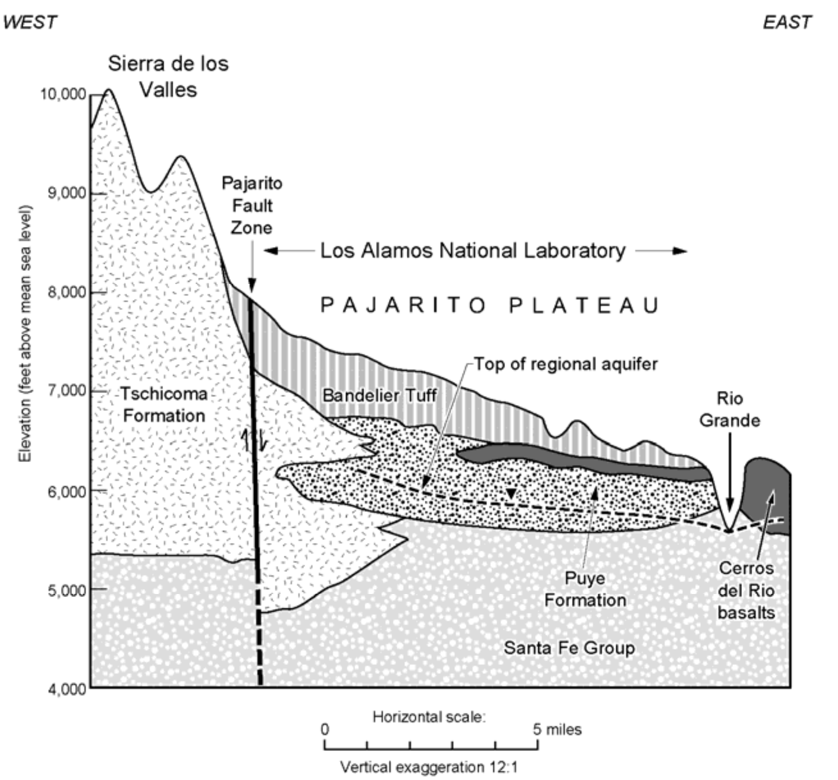
Noise attenuation (reduction) is affected by vegetation, topography and meteorology. Much of LANL is forested, particularly where explosive test sites are located, and varied elevations and rock formations influence and channel noise and vibrations away from receptors. Booming noises from explosives are similar to thunder and startle receptors and LANL workers alike. The Cerro Grande Fire reduced vegetative cover, thereby decreasing the ability of the surrounding environment to absorb noise (DOE 2008a).

LANL operational noise (both audible and vibration) is regulated by worker protection standards (29 CFR 1910.95) that are consistent with the Los Alamos County Code. Los Alamos County promulgated a local noise ordinance that establishes noise level limits for residential land uses. Noise levels that affect residential receptors are limited to a maximum of 65 dBA during daytime hours (between 7 A.M. and 9 P.M.) and 53 dBA during nighttime hours (between 9 P.M. and 7 A.M.). During daytime hours, the permissible noise level can be increased to 75 dBA in residential areas, provided the noise is limited to 10 minutes in any 1 hour. Activities that do not meet the noise ordinance limits require a permit. It was determined by the Los Alamos County Community Development Department that LANL does not need a special permit under the Los Alamos County Code, as explosive test noise is not prolonged. Traffic noise is exempted from the Los Alamos County Code. Wildlife and sensitive, federally protected bird populations are vigorous in the LANL area, suggesting that noise generated at LANL is within the acceptable tolerance range for most wildlife species and sensitive nesting birds.

3.5 Geology and Soils

3.5.1 Regional Geology

LANL is located on the Pajarito Plateau, within the Southern Rocky Mountains Physiographic Province. The Pajarito Plateau lies between the Sierra de los Valles, located in the Jemez Mountains, to the west, and the Rio Grande to the east (see **Figure 3–2**). The Sierra de los Valles form the eastern rim of the Valles caldera, which is a cauldron-like volcanic feature, typically formed by the collapse of land following a volcanic eruption. The first of two major caldera-forming eruptions occurred 1.61 million years ago (Izett and Obradovich 1994), forming the Toledo caldera and producing the lower, or Otowi Member, of the Bandelier Tuff (Spell et al. 1996). The second major caldera-forming eruption occurred 1.256 million years ago (Phillips et al. 2007), forming the Valles caldera and depositing the upper, or Tshirege Member, of the Bandelier Tuff. The gently sloping surface of the Pajarito Plateau is divided into multiple narrow east-southeast-trending mesas, dissected by deep parallel canyons that extend from the Jemez Mountains to the Rio Grande. The major tectonic feature in the region is the Rio Grande rift, which begins in central Colorado, trends southward through central New Mexico, and extends into northern Mexico. This rift comprises a complex system of north-trending basins, formed from down-faulted blocks of the Earth's crust. In the LANL area, the rift is approximately 35 miles (56 kilometers) wide and contains the Española Basin. The Sangre de Cristo Mountains border the rift on the east. The Jemez Mountains and associated Pajarito fault system form the western margin of the rift (DOE 2003b).



Notes:
1. The thickness of geologic units has been exaggerated on this figure to illustrate unit relationships and topography.
2. Offset of the Tschicoma formation on the Pajarito Fault zone is schematic due to the variation along the trace of the fault.
3. To convert feet to meters, multiply by 0.3048; miles to kilometers by 1.6093.

Source: DOE 2008a.

Figure 3–2 Generalized Cross Section of the Los Alamos National Laboratory Area

Rocks in the LANL region are volcanic and sedimentary. Volcanic activity began forming the Jemez Mountains approximately 16.5 million years ago and has continued sporadically to the most recent eruptions that produced the El Cajete pumice fall, about 50,000 to 60,000 years ago (Reneau et al. 1996). The unusually low amount of seismic activity in the Jemez Mountains has been reinterpreted to indicate that seismic signals of magma movement are partially absorbed deep in the subsurface, due to elevated temperatures and high heat flow (LANL 2004). The significance of this to LANL is that magma movement indicates that the Jemez Mountains continue to be a zone of potential volcanic activity.

3.5.2 Stratigraphy

3.5.2.1 Surficial Geologic Units

In the LANL area, the youngest surficial geologic units consist of sediment deposited by flowing water (alluvium) and rock debris accumulated at the bases of slopes along stream channels and in canyons (colluvium). Artificial fill is also present as a result of modern development. Extensive areas on the Pajarito fault escarpment show evidence of mass erosion and landslides. Detailed mapping and trench studies of the Pajarito fault system have identified multiple alluvial fan deposits, the youngest of which were formed in the Holocene period (in the past 11,000 years). The El Cajete pumice fall, which dates back 50,000 to 60,000 years, is contained within intermediate-aged alluvial fan deposits. Older surficial geologic deposits are remnants from once-extensive alluvial fans, predating the incision of the present canyons. These older alluvial deposits contain pumice beds approximately 1.1 million years old (DOE 2003b).

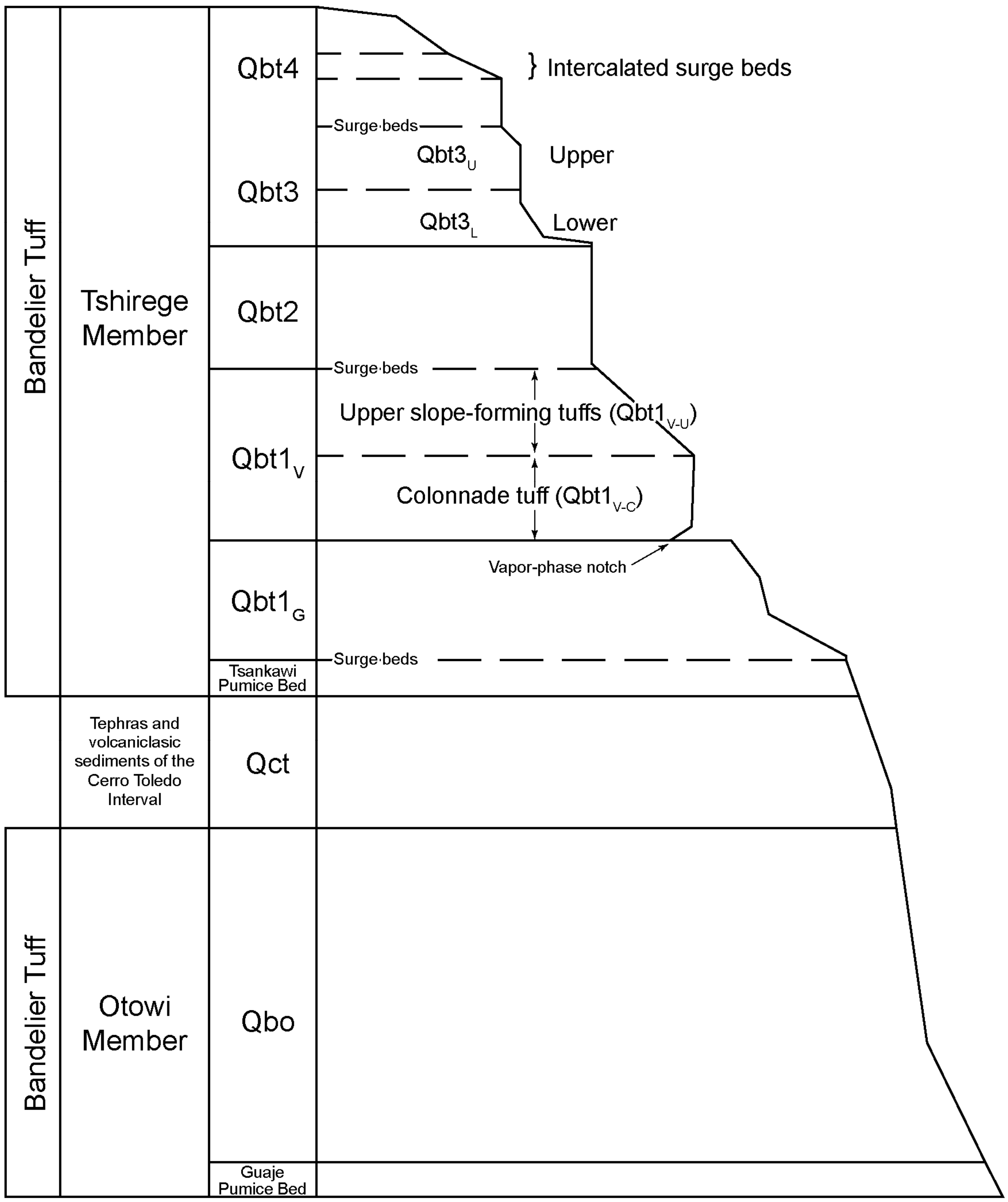
3.5.2.2 Bedrock Units

Bedrock outcrops occur on more than 50 percent of the surface at LANL. The geologic formations that are most relevant to TA-55 are those that would influence seismic ground response and foundation performance. Seismic ground response, as determined by two deep seismic characterization borings, is affected by the relatively high seismic wave velocity of the Cerro del Rio basalt and Tschicoma Formation dacite (which is a relatively hard volcanic rock) and the much lower seismic wave velocities of the overlying, softer Bandelier Tuff (Kleinfelder 2007a).

The 1.2- to 1.6-million-year-old Bandelier Tuff is a variably consolidated ash-flow unit and forms the bedrock on which nearly all LANL facilities are constructed. These rock layers dip gently southeastward, representing the paleotopographic surface and thinning of units away from the volcanic source to the west (DOE 2003b, 2008a). As described above, the Bandelier Tuff was formed in two eruptive pulses from the nearby Valles caldera, located approximately 10 miles west of TA-55. The older member, or Otowi Member, of the Bandelier Tuff has been dated at 1.61 million years (Izett and Obradovich 1994). The younger member, or Tshirege Member, of the Bandelier Tuff has been dated at 1.256 million years (Phillips et al. 2007) and is widely exposed as the mesa-forming unit around Los Alamos. Several discrete subunits constitute the Tshirege Member of the Bandelier Tuff, and commonly accepted stratigraphic nomenclature is described in detail by Broxton and Reneau (1995) and Lewis et al. (2009). The subunits exposed at TA-55 include Qbt2, Qbt3, and limited exposure of Qbt4. Because of their continuity and age, these subunits provide excellent stratigraphic marker horizons for identifying faults that have been active in the past 1.25 million years. Therefore, understanding and identifying the differences between the Tshirege Member subunits and the nature of the contacts between the subunits is critical to identifying fault-generated displacements around the Pajarito Plateau.

Based on borings drilled at the CMRR Facility site within TA-55, approximately 700 feet (210 meters) of Bandelier Tuff is present beneath the proposed CMRR-NF location (see **Figure 3–3**). The upper portion of this geologic unit comprises Units 3 (Qbt3) and 4 (Qbt4) of the Tshirege member of the Bandelier Tuff. The upper unit, Qbt4, is composed of soft volcanic tuff, with slight to moderate welding (which is a term that refers to depositional heat consolidation and compaction) and substantial random fracturing. Some fractures are deeply weathered and clay-filled. The upper part of underlying Unit 3 ($Qbt3_U$) is similar to Qbt4, but less fractured and weathered (Kleinfelder 2007a, 2010a).

The lower part of Unit 3 ($Qbt3_L$) is nonwelded to slightly welded, is weak and friable, does not sustain fractures, and exhibits more soil-like properties. This unit is, on average, approximately 56 feet (17 meters) thick across LANL, from a depth of approximately 75 feet (23 meters) to approximately 125 to 131 feet (38 to 40 meters) below ground surface, with upper and lower transition zones composed of slightly stiffer and slightly more dense material. Compared to the units above and below it, $Qbt3_L$ has lower bearing capacity, higher porosity, and less cohesion, and is more compressible. This unit also has a slight to moderate potential for hydro-collapse, due to wetting. $Qbt3_L$ displays properties more typical of slightly cemented, nonplastic, medium to dense silty sand. The apparent cementation is actually weak welding caused by vapor-phase minerals that form fragile connections between the volcanic ash particles that constitute the matrix of this unit. This weak welding is easily broken by even slight disturbance. The properties of $Qbt3_L$ that are most problematic to nuclear facility construction are those that affect the seismic response of the unit, specifically, the estimated seismic wave velocities (the speed at which seismic waves travel) associated with this rock type.



Source: Kleinfelder 2007b.

Figure 3–3 Bandelier Tuff Nomenclature

Beneath the Bandelier Tuff is approximately 18 feet (5.5 meters) of fine sand and silt, which may be a fine-grained interval of the older alluvial Puye Formation (see Figure 3–2). Underlying the Puye Formation is several hundred feet (hundreds of meters) of the Cerro del Rio basalt and Tschicoma Formation dacitic lava (Kleinfelder 2007a). Overall, the complex interfingering and interlaying of strata beneath LANL results in variable properties that affect canyon wall formation, slope stability, subsurface fluid flow, seismic stability, and the engineering properties of the rock (DOE 2003b, 2008a).

3.5.3 Faulting

The Pajarito fault system defines the current active western boundary of the Rio Grande rift. This seismically active fault system is a complex zone of deformation, consisting of many laterally discontinuous faults and associated folds and fractures that interact in ways that have important implications for addressing potential seismic hazards at LANL. The Pajarito fault system extends for about 31 miles (50 kilometers) along the western margin of LANL and consists of the Pajarito, Santa Clara, Rendija Canyon, Guaje Mountain, and Sawyer Canyon faults. These are all roughly north–south striking, nearly parallel, and interconnected normal slip faults that overall accommodate extension in the Earth's crust (see Figure 3–4).

The Pajarito, Santa Clara, and Sawyer Canyon are east-dipping faults, whereas the Rendija Canyon and Guaje Mountain are west-dipping faults. Of these faults, the Pajarito is the longest, has the largest Quaternary displacement (during the past 1.8 million years), and together with the Santa Clara, delineates the boundary between the Pajarito Plateau and Jemez Mountains, which is characterized by a broad, east-facing escarpment. The Rendija Canyon, Guaje Mountain, and Sawyer Canyon faults constitute a broad zone of smaller faults within the downthrown block of the main Pajarito and Santa Clara faults.

Locally, the Pajarito and Rendija Canyon faults define a downthrown block of the Bandelier Tuff that lies beneath the western part of the Los Alamos townsite and TA-3, called the Diamond Drive graben. The main trace of the Rendija Canyon fault dies out near the latitude of Los Alamos Canyon, although a complex distribution of associated, smaller, discontinuous faults continue another couple of miles southward, curving southwest toward the Pajarito fault (see **Figures 3–4** and **3–5**). Thus, the CMR Building lies within this zone of faults, whereas the proposed CMRR-NF site lies about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system.

Although large historical earthquakes have not occurred on the Pajarito fault system, geologic evidence indicates that it is seismically active and capable of producing large surface-faulting earthquakes of moment magnitude (**M**) 6.5 to 7.3 (LANL 2007a; Lewis et al. 2009). Early Quaternary deposits have been displaced down to the east by as much as 650 feet (200 meters) along this fault zone, which also shows compelling evidence for repeated, late Quaternary faulting (LANL 2007a; Lewis et al. 2009). Numerous paleoseismic trench studies (Gardner et al. 1990; Olig et al. 1996; Kelson et al. 1996; Reneau et al. 2002; Gardner et al. 2003; McCalpin 2005) have been conducted on several different traces of the fault system, revealing evidence of at least two, possibly three, large surface-faulting earthquakes that occurred since 11,000 years ago and as many as nine large earthquakes that occurred since about 110,000 years ago (LANL 2007a; Lewis et al. 2009). However, individual rupture patterns are complex, and the timing of many events (particularly older earthquakes) is not well constrained.

The Pajarito fault system has been mapped in detail in the northern and western portions of LANL property, as well as in the vicinity of LANL (see Figure 3–5). These detailed fault data include fault mapping from a variety of projects that were performed using different methods, that is, conventional geologic mapping, surveying, drilling, and trenching; at different scales, ranging from 1:1,200 to 1:62,500; and at different times, from 1987 to 2004. Portions of the data include currently unpublished mapping performed by the LANL Seismic Hazards Geology Team. The fault mapping includes faults and related structures, such as folds, fissures, and fault zones.

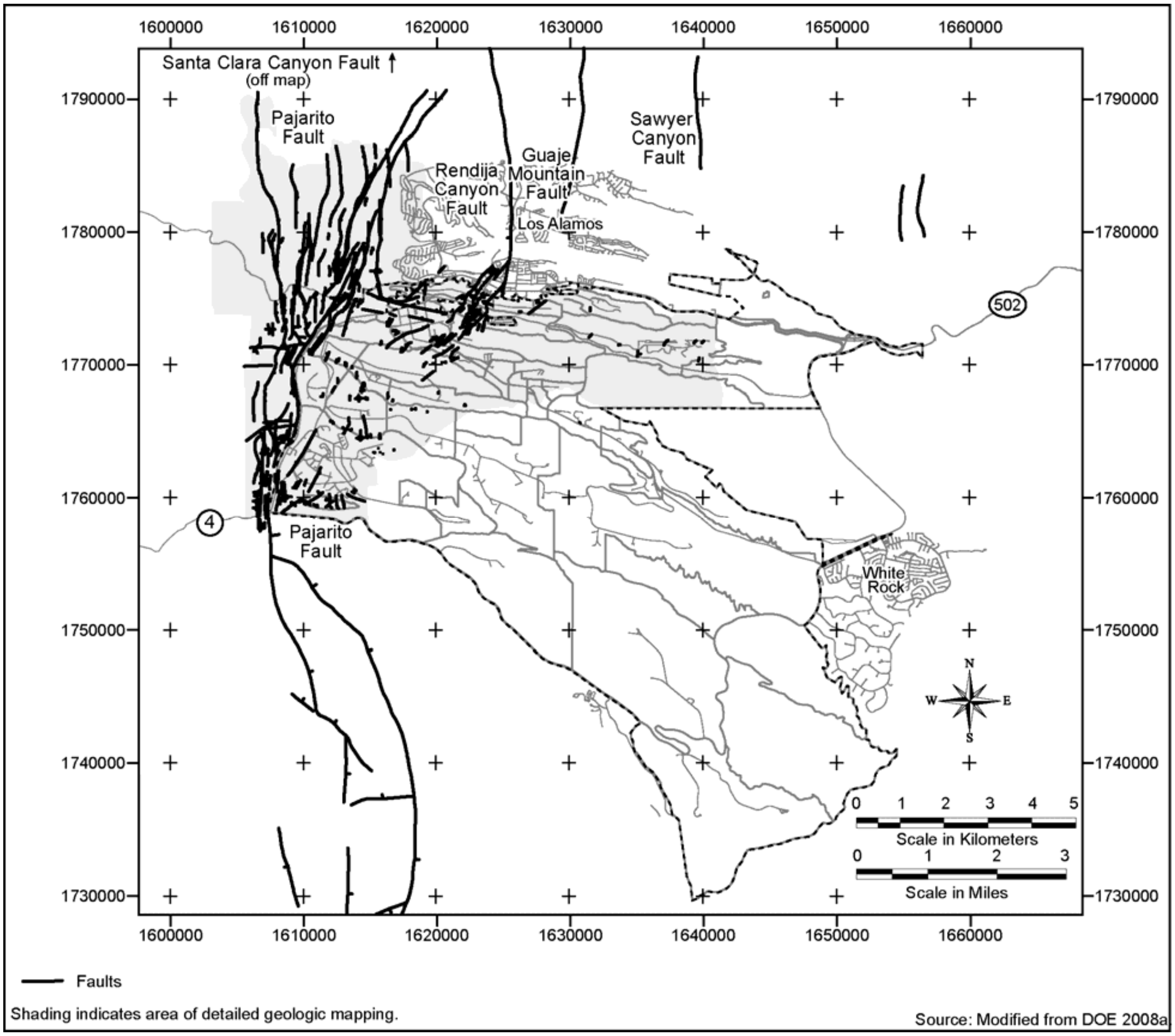


Figure 3–4 Mapped Faults in the Los Alamos National Laboratory Region

Previous geologic studies used methods such as aerial photographic lineament mapping, geophysical techniques, and fracture studies of rock outcrops in particular canyons to postulate that the southern ends of the Rendija Canyon and Guaje Mountain faults may continue as surface faults south of the Los Alamos townsite and trend through sensitive LANL sites (Dransfield and Gardner 1985; Vaniman and Wohletz 1990; Wohletz 1995, 2004). Ensuing site-specific studies at and near TA-55 used careful geologic field investigative techniques, including conventional geologic mapping, trenching, borehole studies, and innovative, high-precision, total station mapping of Tshirege Member subunit contacts to recognize and map vertical fault displacements so small that they would be overlooked and unmapped by conventional geologic mapping techniques (Reneau et al. 1995; Gardner et al. 1998, 1999, 2008; Lavine et al. 2005). This latter procedure allowed the identification of fault locations in real time, with data precision better than 0.05 feet (1.5 centimeters) in the horizontal directions and better than 0.02 feet (0.6 centimeters) in the vertical direction, relative to the position of known and established benchmarks. The high-precision geologic mapping completed by these studies is shown in **Figure 3–6**.

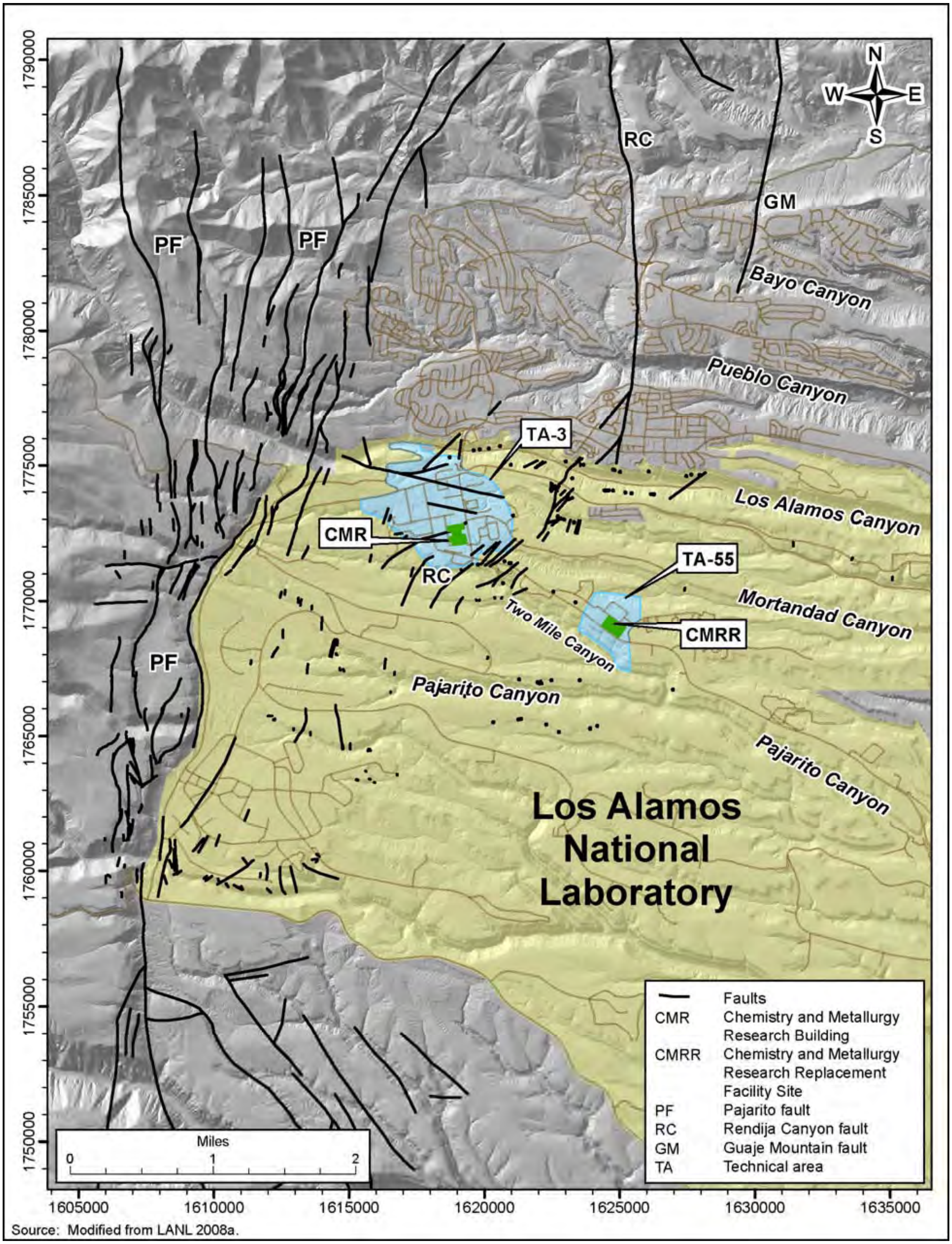


Figure 3–5 Mapped Faults in the Los Alamos National Laboratory Area

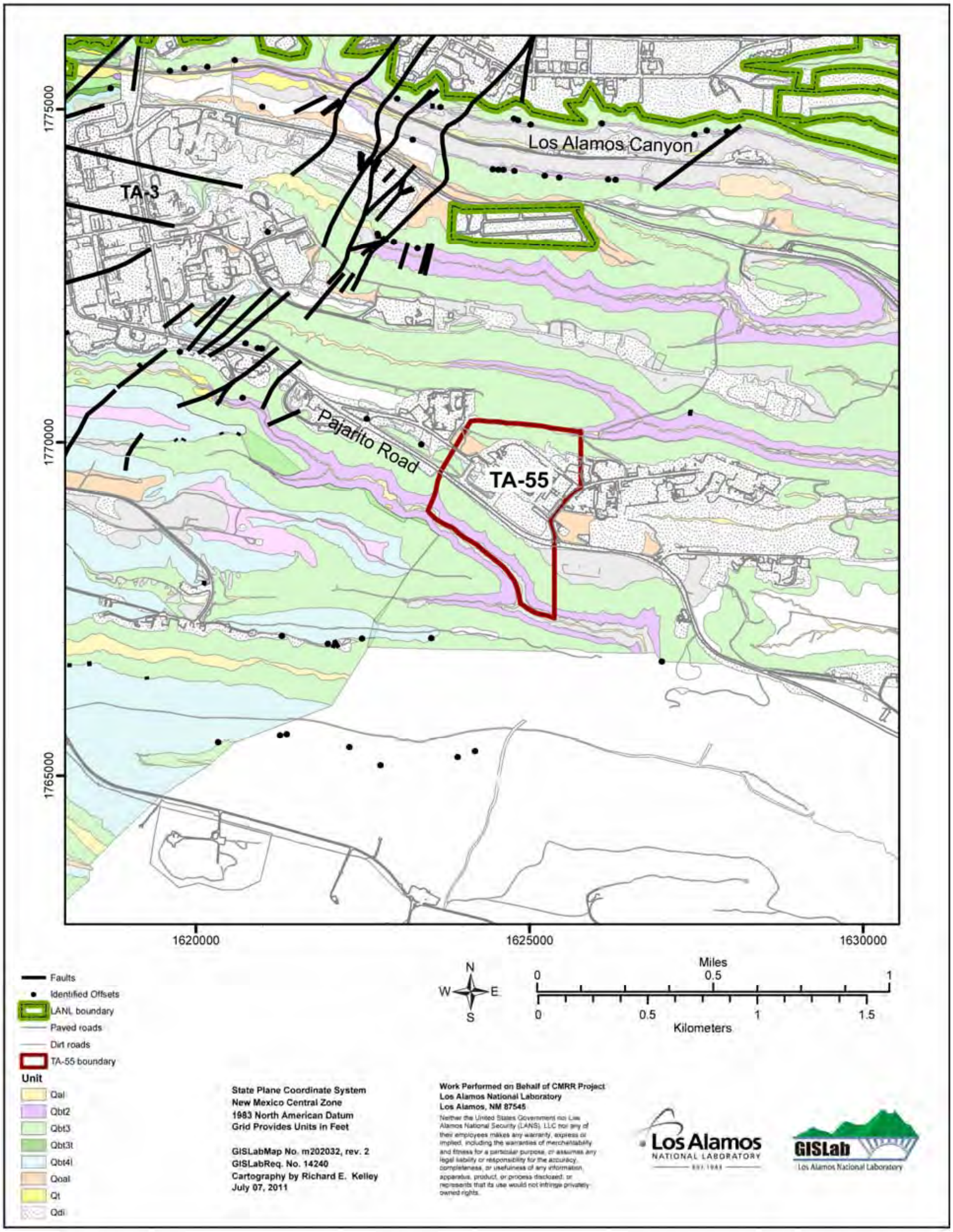


Figure 3–6 Geologic Map of Technical Area 55

At TA-67 (south of TA-55, see Figure 3–1), investigations found small, complex faults with activity older than 50,000 to 60,000 years (the age of the El Cajete pumice), but no correlation between increased fracture density and surficial faulting. At TA-3, a fault with approximately 8 feet (2.4 meters) of displacement was identified. In contrast, around TA-55 and the CMRR Project site, the stratigraphic markers in the 1.25-million-year-old Bandelier Tuff are continuous and show no evidence for laterally continuous surface-rupturing faults using high-precision total station mapping. This is consistent with findings of a subsequent subsurface excavation at the CMRR Project site that also used high-precision mapping techniques (Gardner et al. 2008). Although Gardner et al. (2008) did observe some fractures and small faults confined within units of the tuff, they concluded that fractures and faults exposed at the proposed CMRR Project site formed very shortly after emplacement of the tuff at 1.256 million years, as a result of cooling and compaction, and the structures identified at the proposed CMRR Project site pose no independent seismic surface rupture hazard.

3.5.4 Seismic Hazard

Although the LANL region is within an intracontinental rift zone, the area demonstrates a low-to-moderate level of historical seismicity compared to regions bordering on active continental plate boundaries, such as California (LANL 2007a). The largest historical earthquake observed in the Rio Grande rift in northern New Mexico was the 1918 Cerrillos event, which had an estimated Richter local magnitude[2] (M_L) of about 5.3. In contrast to the historical record, paleoseismic investigations beginning in the late 1980s along the Pajarito fault system, as well as elsewhere on other Rio Grande rift faults, indicate that large surface-faulting earthquakes of moment magnitude[3] (**M**) 6.5 have repeatedly ruptured Rio Grande rift faults in Holocene times (the last 11,000 years) (Gardner et al. 2003; LANL 2007a; Lewis et al. 2009; Machette 1998; Reneau et al. 2002). The moment magnitude was developed in the 1970s to succeed the Richter magnitude scale, which was developed in the 1930s. The moment magnitude is now the scale used by the U.S. Geological Survey to estimate the magnitude of all modern large earthquakes, as the Richter magnitude has limited range and applicability and does not accurately measure the size of the largest earthquakes. The moment magnitude is uniformly applicable to all sizes of earthquakes. However, both types of magnitude scales yield approximately the same value for any given earthquake (UC 1999; USGS 2009).

A comprehensive update to the LANL seismic hazard analysis was completed in June 2007 (LANL 2007a). The updated study used more-recent field data, most notably from the proposed CMRR Project site, and the application of the most current analysis methods, in order to update the seismic source model, ground motion attenuation relationships, dynamic properties of the subsurface (primarily the Bandelier Tuff) beneath LANL, as well as the probabilistic seismic hazard and design/evaluation-basis earthquake ground motions for LANL. The approach used in the updated 2007 analysis follows the Senior Seismic Hazard Analysis Committee's guidelines for a Level 2 analysis, as described in the U.S. Nuclear Regulatory Commission's *Recommendations for Probabilistic Seismic Hazard Analysis – Guidance on Uncertainty and Use of Experts* (NRC 1997). Based on this analysis, the dominant contributor to seismic hazard at LANL is the Pajarito fault system, due to its proximity and rate of activity.

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[2] The Richter local magnitude is determined from the logarithm of the amplitude of waves recorded by seismographs. Adjustments are included for the variation in the distance between the various seismographs and the epicenter of the earthquakes. Each whole number increase in magnitude represents about 31 times more energy.
[3] Moment magnitude is a measure of earthquake magnitude, whereby the total energy released by an earthquake is calculated based on the amount of slip on the fault times the area of the fault surface that slips. The calculated energy released is converted into a number similar to other earthquake magnitudes by a standard formula. The result is the moment magnitude, which is generally used to measure earthquake events greater than a magnitude of 3.5 to 5.5.

In the 2007 seismic hazard update, the probabilistic seismic hazard was calculated for the ground surface at the existing CMR Building location within TA-3 and the proposed CMRR Project site within TA-55 using the new information on the Pajarito fault system and updated ground motion attenuation relationships (LANL 2007a). The peak horizontal ground acceleration value at both sites was 0.52 *g* (52 percent of gravitational acceleration) at the design return period of 2,500 years. The vertical peak ground acceleration value was 0.6 *g*, also at a return period of 2,500 years (LANL 2007a).[4] These peak ground acceleration values were calculated for the Uniform Hazard Response Spectra and Design Response Spectra (see Chapter 6, Glossary) (NRC 2007).

In 2009, the probabilistic seismic hazard analysis was updated again to incorporate a new set of ground motion attenuation relationships and to examine potential conservatisms in the 2007 study (LANL 2009b). The results of the 2009 updated analysis were reviewed and accepted by an external review panel, DOE, and the Defense Nuclear Facilities Safety Board (DNFSB). Based on the 2009 study, the TA-55 horizontal and vertical peak ground acceleration values for a 2,500-year return period are 0.47 *g* and 0.51 *g*, respectively, a reduction from the 2007 study (LANL 2009b). These ground accelerations were based on the latest geologic data, including that published in Lewis et al. (2009) and documented in the 2007 probabilistic seismic hazard analysis (LANL 2007a). Expected maximum magnitudes for the various rupture scenarios of the Pajarito fault system range from **M** 6.5 to 7.3. The 2007 analysis assumed that the dominant earthquake that controlled the seismic analysis was a single **M** 7.0 earthquake, at a close-in distance. However, earthquakes of **M** 4.5, 5.5, 6.5, 7.5, and 8.5 were also modeled in the distance range of 1 to 248 miles (1.6 to 400 kilometers), using the stochastic ground motion modeling approach (LANL 2007a). The expected magnitudes were calculated using well-established and widely accepted empirical relations (Wells and Coppersmith 1994). Results were checked and peer-reviewed by an internationally recognized Participatory Peer Review Panel during the 2007 study.

The 2009 updated study refined the estimate for the dominant earthquake, determining that a range in magnitude of **M** 6.0 to **M** 7.0 was more appropriate at close distances. The new set of empirical ground motion attenuation models used in the 2009 study have become available as part of the Pacific Earthquake Engineering Research Center's Next Generation Attenuation (NGA) Models for the Western United States Project. The NGA models have been accepted by the seismic hazard community and have been used by the U.S. Geological Survey as part of the National Seismic Hazards Map. The 2007 study was to have used the NGA models relationships, but the models were not published in time. The NGA models have a substantially better scientific bases than current relationships, such as Abrahamson and Silva (1997), because they were developed through the efforts of five selected attenuation relationship developer teams, working in a highly interactive process with other researchers who have developed, expanded, and improved databases of strong motion recordings; conducted additional research regarding ground motion effects; and developed improved statistical methods to develop attenuation relationships. These relationships have benefited greatly from a large amount of new strong motion data from large earthquakes (**M** greater than 7) at close distances (less than 15.5 miles [25 kilometers]) (DNFSB 2009; LANL 2009b).

During earthquakes, facilities near a cliff edge or in a canyon bottom are potentially susceptible to slope instability, rock falls, and landslides. Slope stability studies have been performed at LANL facilities where a hazard has been identified. The potential for seismically induced land subsidence at LANL is considered low and, for soil liquefaction, negligible (DOE 2003b).

Deep geotechnical borings were drilled at TA-55 to characterize the complete geologic column down to the basement bedrock level. These borings were completed for the purpose of geotechnical characterization and not for the purpose of identifying the presence or absence of faults. Three boring locations were

[4] An error in the reported vertical peak ground acceleration at LANL (0.3 g) was corrected to 0.6 g. This typographical error in the Executive Summary of the source document (LANL 2007a), is not reflective of information presented elsewhere in the probabilistic seismic hazard analysis and was not used in the design of the proposed Modified CMRR-NF.

initially identified; however, only two borings were deemed necessary to provide corroborative characterization of the deeper portions of the geologic column. The third boring was identified as an alternative and would have been drilled only if the currently planned site at TA-55 were not deemed viable. Borehole DSC-1B was drilled to a depth of 741 feet (226 meters) below ground surface, while borehole DSC-2A reached a total depth of 550 feet (168 meters) below ground surface. The geologic formations that are most relevant to TA-55 are those that would influence seismic ground response and foundation performance. Seismic ground response, as determined by data derived from these two deep seismic characterization borings, is affected by the relatively high seismic wave velocity of the denser basement rocks, consisting of the Cerros del Rio basalt and Tschicoma Formation dacite, and the much lower seismic wave velocities of the overlying, softer Bandelier Tuff. From data provided by Kleinfelder (2007a), DSC-1B was the only deep borehole to penetrate into the Tschicoma Formation dacite. In addition, the presence of the relatively soft $Qbt3_L$ between two stiffer units, $Qbt3_U$ and Qbt2, is important with respect to the seismic ground response of the site (Kleinfelder 2007a).

Kleinfelder (2007a) states that the sampled portion of the Cerros del Rio basalt and Tschicoma Formation dacite was highly fractured and vesicular. Fractures and vesicles are common features of chilled upper portions of relatively harder volcanic flows (Fink and Anderson 2000), and such features are expected in the upper 40 to 50 feet (12 to 15 meters) of a dacite flow that is hundreds of feet thick, such as the Tschicoma Formation dacite below the proposed CMRR-NF.

3.5.5 Volcanic Activity

Geophysical studies of the Jemez Mountains Volcanic Field have identified likely zones of molten magma at shallow to mid-crustal depths. The U.S. Geological Survey recently rated the Valles caldera a "moderate threat" and recommended enhanced monitoring of the Jemez Mountains Volcanic Field.

Volcanic activity began forming the Jemez Mountains approximately 16.5 million years ago and has continued sporadically to the most recent eruptions, which occurred about 35,000 to 45,000 years ago. Two main types of Quaternary volcanic activity have occurred close to LANL, including explosive and effusive rhyolite (i.e., silicic) eruptions in the Valles caldera, located approximately 6 miles (10 kilometers) west of LANL, and explosive and effusive basalt eruptions in the Cerros del Rio volcanic field, located in the nearby (to the east) Rio Grande valley and partially underlying the eastern portions of LANL.

Silicic Eruptions. Potential future silicic eruptions within the Jemez Mountains Volcanic Field would likely be similar to the most recent, 35,000-to 60,000-year-old rhyolitic eruptive cycle, which consisted of relatively small rhyolite domes and flow eruptions. Potential future silicic eruptions could consist of explosive eruption columns that produce proximal and downwind tephra fallout and pyroclastic flows in topographic lows. In addition, proximal rhyolite lava flows and domes are expected to fill topographic low areas near the vent, up to a distance of several kilometers. Eruptive activity may continue for days to months for explosive eruptions and several years to tens of years for a single eruption cycle. The total period for a phase of eruption could last thousands of years. Tephra deposits, which are undifferentiated volcanic deposits up to several meters thick and associated with several post-Bandelier Tuff eruptions (see Section 3.5.2, Stratigraphy), have been documented on the Pajarito Plateau and at LANL (LANL 2010i).

If silicic volcanism occurred within the Valles caldera topographic rim, the Pajarito Plateau would likely be impacted by centimeter-to-meter thicknesses of tephra fallout. Tephra deposits on the slopes of the Sierra de los Valles, west of LANL, could result in the production of volcanic mudflows in the canyons as rainfall and snowmelt mobilized the loose tephra. Tephra fallout may deposit greater than 4 inches (10 centimeters) of ash within about 12 to 24 miles (20 to 40 kilometers) downwind, which would encompass LANL technical areas. Volcanic blast effects, pyroclastic flows, and lava flows would be unlikely to directly affect LANL due to distance and topographic considerations (LANL 2010i).

Basaltic Eruptions. In addition to silicic volcanism, basaltic (mafic) volcanism has occurred over the past 30 million years. Evidence of basaltic volcanism includes the approximately 1-million-year-old Cerros de Rio volcanic field beneath LANL and stretches tens of kilometers to the east and south. While the main activity in the Cerros del Rio volcanic field occurred more than 1 million years ago, magmatic activity has more recently occurred in the Rio Grande rift and along the Jemez Lineament, including eruptions near Carrizozo and Grants, New Mexico, located approximately 200 miles (320 kilometers) and 175 miles (280 kilometers), respectively, from LANL. These eruptions occurred 1,100 to 5,200 years ago, albeit farther from LANL than the most recent silicic eruptions within the Jemez Mountains Volcanic Field. Therefore, the potential for new basaltic volcanism in the Espanola Basin cannot be ruled out (LANL 2010i).

Two main types of future basaltic eruption are possible, based on observed deposits of past eruptions, including a Strombolian eruption, which may produce a cinder cone, tephra fallout, and lava flows via fountaining and low ash column, and hydro-magmatic eruption, in which rising magma and surface water combine explosively to form maar craters, surges, ash flows, and tephra fallout. New basaltic activity is most likely within the area of existing Cerros de Rio basalts. Such explosions, surges, and magma effusion may affect areas within several hundred meters of the vent. Lava flows may affect areas within several kilometers of the vent. As described for silicic fallout hazards, tephra fall may produce significant impacts on buildings, roads, and utility infrastructure. A recurrence of volcanic activity could impact the study region for an extended period of time (months to years), until volcanic activity stopped (LANL 2010i).

Recurrence Rate. The unusually low amount of seismic activity in the Jemez Mountains has been interpreted to indicate that seismic signals are partially absorbed deep in the subsurface, due to elevated temperatures and high heat flow (LANL 2004). The presence of magma indicates that the Jemez Mountains continue to be a zone of potential volcanic activity. Based on an integration of available information on the volcanic history of the region surrounding LANL, the preliminary calculation of the recurrence rate for silicic eruptions is about 1×10^{-5} per year in the Valles caldera study region. Although the eruption record shows significant clustering of events, this simple calculation assumes a homogenous (Poisson) distribution of events. Similarly, the preliminary calculation of the recurrence rate for basaltic eruptions along the Rio Grande rift floor is 2×10^{-5} per year. The recurrence rate for an eruption that could produce major impacts at LANL would be less than the rates listed above for the expected recurrence of volcanic activity in the study region. Volcanism in the vicinity of LANL is very unlikely over the next 50 to 100 years, but cannot be completely ruled out. In any event, the recurrence rate for a volcanic eruption occurring somewhere in the study region is an order of magnitude less than the performance goal of 1×10^{-4} per year for the most hazardous facilities at LANL (LANL 2010i).

3.5.6 Economic Geology

Potential mineral resources at LANL consist of rock and soil for use as backfill or borrow material, or for construction of remedial structures, such as waste unit covers. Rock and mineral resources, including sand, gravel, and volcanic pumice, are mined throughout the surrounding counties. Sand and gravel are primarily used in construction at LANL for road building. Pumice aggregate is used at LANL for landscaping. The major sand and gravel quarry located in the LANL area is situated in the lower member of the Puye Formation. The welded and harder units of the Bandelier Tuff are suitable as foundation rocks, structural and ornamental stone, or insulating material. Volcanic tuff has also been used successfully as aggregate in soil-cement sub-base for roads (DOE 2003b, 2008a).

The only borrow pit currently in use at LANL is the East Jemez Road Borrow Pit in TA-61, which is used for soil and rubble storage and retrieval. This borrow pit is cut into the upper Bandelier Tuff, which represents good source material for certain construction purposes. There are numerous commercial offsite borrow pits and quarries in the vicinity of LANL. Eleven pits or quarries are located within 30 miles

(48 kilometers) of LANL, which is the distance considered the upper economically viable limit for hauling borrow material to a LANL site. In general, these nearby pits and quarries produce sand and gravel (DOE 2008a). The information regarding the quantity of material produced by individual aggregate or stone mines is not publically available (Lucas-Kamat 2010).

3.5.7 Soils

Soils in Los Alamos County have developed from decomposition of volcanic and sedimentary rocks within a semiarid climate and range in texture from clay and clay loam to gravel. Soils that formed on mesa tops of the Pajarito Plateau include the Carjo, Frijoles, Hackroy, Nyjack, Pogna, Prieta, Seaby, and Tocal soils series. All of these soils are well-drained and range from very shallow (0 to 10 inches [0 to 25 centimeters]) to moderately deep (20 to 40 inches [51 to 102 centimeters]), with the greatest depth to the underlying Bandelier Tuff being 40 inches (102 centimeters) (DOE 1999a). More specifically, TA-55 and TA-3 are underlain by rock outcrop-Frijoles-Hackroy soils, which consist of barren or nearly barren areas of bedrock, as benches, ledges, and escarpments, with areas of very shallow to deep, well drained, sandy loam, formed from tuff and pumice on 1 to 8 percent slopes. These soils are characterized by slow to moderate permeability, very low water capacity, high shrink-swell potential, and very high runoff (NRCS 2008).

Soils that develop in canyon settings can be locally much thicker. Soil erosion rates vary considerably at LANL, due to the mesa and canyon topography. The highest erosion rates occur in drainage channels and on steep slopes. Roads, structures, and paved parking lots concentrate runoff. High erosion rates are also caused by past area logging practices, livestock grazing, loss of vegetative cover, and decreased precipitation. The lowest erosion rates occur at the gently sloping central portions of the mesas, away from the drainage channels. Soils at LANL are acceptable for standard construction techniques (DOE 2003b). No prime farmland soils have been designated in Los Alamos County. The closest areas of prime farmland are located approximately 7.5 miles (12 kilometers) east and 10 miles (16 kilometers) south of LANL, adjacent to the Rio Grande (NRCS 2011).

3.6 Surface-Water and Groundwater Quality

3.6.1 Surface Water

The LANL area includes all or portions of seven principal watersheds that drain directly into the Rio Grande (the major river in north-central New Mexico), each delineated by a master canyon. Situated from north to south, the master canyons for these seven watersheds are Los Alamos, Sandia, Mortandad, Pajarito, Water, Ancho, and Chaquehui Canyons, each with tributary canyons of various sizes (**Figure 3–7**). Los Alamos, Pajarito, and Water Canyons have their headwaters west of LANL in the western Jemez Mountains (mostly within the Santa Fe National Forest), while the remainder have their upper reaches on the Pajarito Plateau. Ancho Canyon is the only regional watershed located entirely on LANL property. Canyons that drain LANL property are generally dry for most of the year, and no perennial surface water (that is, water that is present all year) extends completely across LANL in any canyon (LANL 2008a, 2010b).

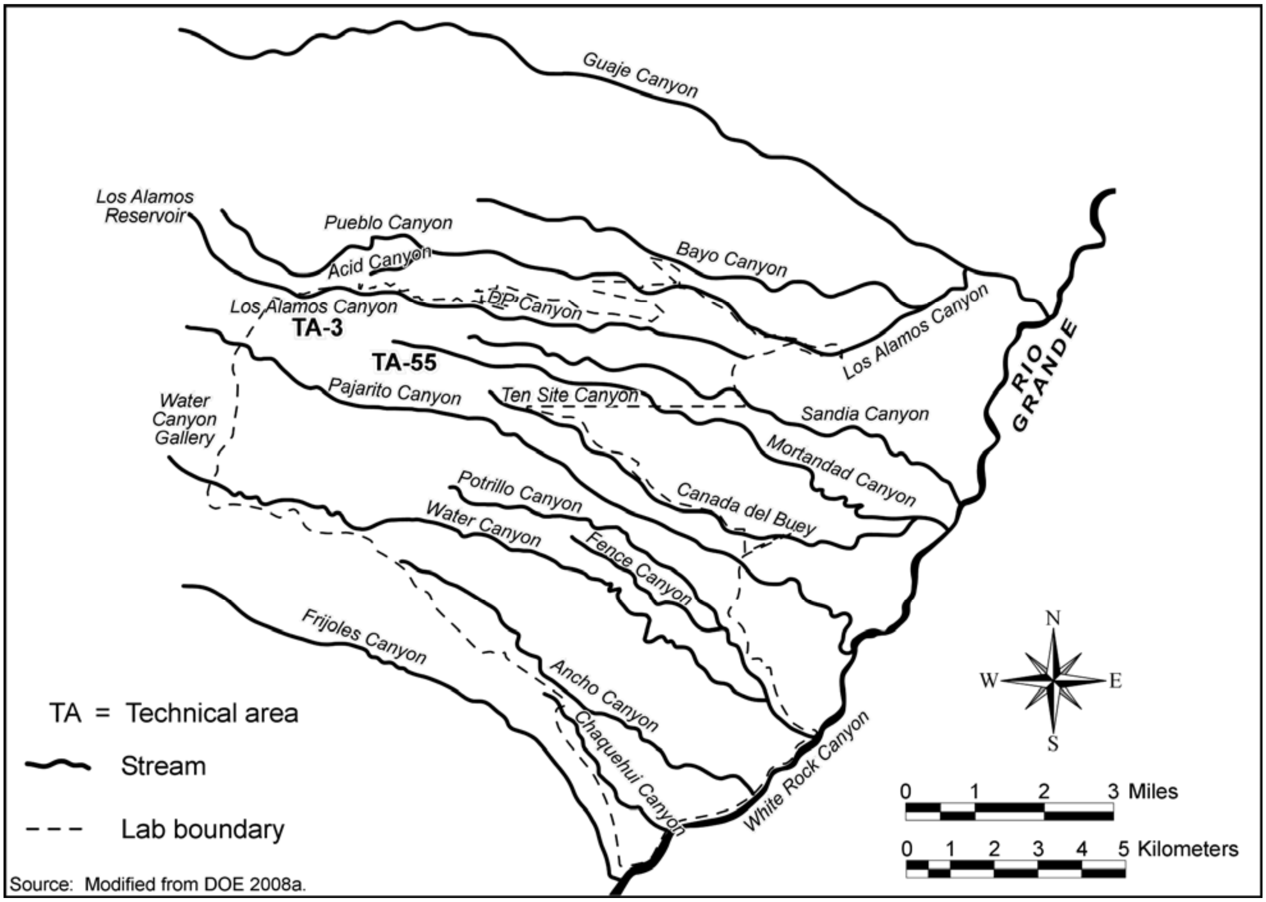

Figure 3–7 Major Watersheds in the Los Alamos National Laboratory Region

Geographically, TA-55 is located on Pajarito Mesa and along the Pajarito Road corridor, which transverses portions of Pajarito Mesa and Pajarito Canyon. TA-55 is situated on a narrow mesa (Mesita del Buey) approximately 1 mile (1.6 kilometers) southeast of TA-3. TA-55 is bordered by Mortandad Canyon to the north and Twomile Canyon to the south. Twomile Canyon converges with Pajarito Canyon south and east of TA-3 near the border of TA-55 with TA-6, and abuts TA-3 on the south and west (see Figure 3–7). Los Alamos Canyon borders TA-3 to the north. Both TA-55 and TA-3 are heavily developed facility complexes with surface-water drainage primarily occurring as sheet flow runoff from impervious surfaces within each complex (DOE 2003b).

Most surface water on the Pajarito Plateau is designated by the New Mexico Water Quality Control Commission for livestock watering, wildlife habitat, and secondary contact. NMED has identified several impaired stream reaches (including two in Pajarito Canyon), based on evaluation of surface-water sampling from streams within and downstream of LANL (DOE 2008a). Within LANL boundaries, four stream segments are classified as perennial; three of these stream segments are spring-fed (Pajarito Canyon, Cañon de Valle, and Water Canyon), and the fourth (Sandia Canyon) is fed by treated sanitary effluent (LANL 2010b). Surface water within LANL boundaries is not a source of municipal, industrial, or irrigation water; however, wildlife living within (or migrating through) the region utilize the water (DOE 2003b).

While direct use of the surface water within LANL property is limited, stream flow during storm events can extend beyond the LANL boundary, where there is greater potential for more direct use of the water. Stream flows sometimes extend onto Pueblo of San Ildefonso land, particularly flows in Pueblo Canyon derived from treated sanitary effluent discharged from the Los Alamos County Wastewater Treatment

Plant. Spring water may be used traditionally and ceremonially by Pueblo of San Ildefonso members, which may result in exposure through ingestion or direct skin contact (LANL 2010b).

Compliance activities performed through the LANL Water Stewardship Program in 2009 to manage and protect surface water resources focused on monitoring surface-water quality and stream sediment in northern New Mexico. Samples are collected at more than 290 sites when sufficient water is present during stormwater runoff events. LANL workers analyze these samples for radionuclides, high explosives, metals, a wide range of organic compounds, and general chemistry (LANL 2010b).

In general, the quality of most surface water in the LANL area is good. In more than 100 surface water and sediment samples taken in 2009, most analytes were at concentrations far below regulatory standards and risk-based advisory levels. LANL operations have affected major watersheds in the area, resulting in sediment contamination in several canyons (mainly due to past industrial effluent discharges). However, radionuclide levels are well below applicable regulatory standards and measured sediment contamination levels are well below screening levels for recreational uses (LANL 2010b). Detailed information on surface-water quality monitoring, including analytical results, is presented in the LANL annual site environmental report (LANL 2010b).

NNSA must comply with 10 CFR Part 1022, which identifies DOE requirements for compliance with Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Protection of Wetlands*. Floodplains designated within LANL boundaries are generally associated with watershed canyon drainages and are addressed in the 2008 *LANL SWEIS* (DOE 2008a). There are several facilities and structures located within or partially within 100-year floodplains at LANL, none of these are waste management facilities and most are deemed "low hazard" or "no hazard" (such as small storage buildings, guard stations, well heads, water treatment stations, and some light laboratory[5] buildings) (DOE 2008a). No developed areas of TA-55 or TA-3 are located within a delineated floodplain or a wetland (DOE 2003b). (Wetlands as ecological features are also discussed in Section 3.7.2). The proposed Modified CMRR-NF is located approximately 650 feet (200 meters) from the Twomile Canyon 100-year floodplain, 1,900 feet (580 meters) from the Mortandad Canyon 100-year floodplain, and 3,000 feet (910 meters) from the Pajarito Canyon 100-year floodplain. In 2009, there were no unusual stormwater runoff events at LANL.

The largest recorded flood in 2009 was measured in Ancho Canyon below SR-4 (stream gauge E275) on July 30, with an estimated peak discharge of 414 cubic feet (12 cubic meters) per second. In 15 years of monitoring at this station, this was the fourth largest recorded event and resulted from a typical short-duration summer thunderstorm. No significant new sediment deposits occurred from this flood. All other runoff events recorded at LANL in 2009 had peak discharges of 60 cubic feet (1.7 cubic meters) per second or less (LANL 2010b).

Section 404 of the Clean Water Act (CWA), which addresses watercourse dredging and fill activities, requires LANL to obtain permits from the U.S. Army Corps of Engineers for any work within perennial, intermittent, or ephemeral watercourses. Section 401 of the CWA requires states to certify that Section 404 permits issued by the Army Corps of Engineers will not prevent attainment of state-mandated stream standards. During 2009, six Section 404/401 permits were issued to LANL and one Section 404/401 permit was issued to NNSA's Los Alamos Site Office (LANL 2010b).

[5] *Light laboratory work would involve nonradioactive materials and chemicals as well as very small amounts of radioactive materials. The term is used here to distinguish this work from work requiring Hazard Category 2 and 3 workspace.*

Since 2008, LANL has operated entirely under the current National Pollutant Discharge Elimination System (NPDES) permit (effective August 1, 2007) for industrial and sanitary wastewater discharges. The NPDES outfall permit establishes specific chemical, physical, and biological criteria that effluent from LANL must meet before it is discharged. During 2009, the NPDES permit for industrial point sources at LANL contained 15 permitted outfalls, covering 1 sanitary outfall and 14 industrial outfalls. The NPDES outfall permit requires weekly, monthly, quarterly, and annual sampling at LANL to validate compliance with effluent quality limits. LANL continues to meet requirements under the CWA. During 2009, none of the 76 samples collected from the Sanitary Wastewater Systems Plant (SWWS) outfall exceeded CWA effluent limits. Only 7 of the 1,361 samples collected from industrial outfalls exceeded effluent limits: 3 chlorine exceedances, 2 pH exceedances, 1 total suspended solids exceedance, and 1 polychlorinated biphenyls exceedance (LANL 2010b). As part of a comprehensive LANL Outfall Reduction Project, the NPDES-permitted outfall serving the CMR Building in TA-3 (outfall #03A-021) was closed as of September 2010. All nonradioactive liquid effluent from the CMR Building is now sent to the SWWS Plant. Following field verification by the New Mexico state regulator, a permit modification requesting deletion of the outfall will be made to EPA.

Stormwater discharges from construction activities disturbing areas 1 or more acres (0.4 or more hectares) in size are regulated under the NPDES Construction General Permit Program. Compliance with the program includes developing and implementing a Storm Water Pollution Prevention Plan (SWPPP) before ground disturbance can begin, as well as conducting site inspections once soil disturbance has commenced. During 2009, LANL maintained and implemented 52 SWPPPs (and addenda) for site construction activities and performed 471 stormwater inspections. The inspection compliance record for Construction General Permit at LANL in 2009 was 99.2 percent for this permit. Furthermore, during the summer, when most high-intensity precipitation events occur, all 467 of the inspections were compliant (LANL 2010b).

The NPDES Industrial Storm Water Permit Program at LANL, covered under the EPA 2008 NPDES Storm Water Multi-Sector General Permit for Industrial Activities (MSGP-2008), regulates stormwater discharges from regulated industrial activities and their associated facilities (such as metal fabrication; hazardous waste treatment, storage, and disposal; landfill operations; vehicle and equipment maintenance; recycling activities; electricity generation; warehousing activities; and asphalt manufacturing). MSGP-2008 requires the development and implementation of site-specific SWPPPs. In 2009, LANL implemented and maintained 15 SWPPPs under MSGP-2008 requirements, covering 19 facilities. Compliance with the permit requirements is mainly achieved by implementing the following activities at these sites:

- Identifying potential contaminants and activities that may impact surface-water quality and identifying and providing structural and nonstructural controls to limit the impact of those contaminants
- Developing and implementing facility-specific SWPPPs
- Monitoring stormwater runoff at facility gauging stations and stand-alone samplers for industrial sector-specific benchmark parameters, impaired water constituents, and effluent limitations, and visually inspecting stormwater runoff to assess color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollution (LANL 2010b)

LANL has three principal wastewater treatment facilities—the SWWS Plant in TA-46; the Radioactive Liquid Waste Treatment Facility (RLWTF) in TA-50; and the High Explosives Wastewater Treatment Facility in TA-16**.** Released treated wastewater from NPDES-permitted outfalls at LANL rarely leaves the site. In 2009, LANL facilities discharged a total of 133.3 million gallons (505 million liters) of effluent; discharges were made to Sandia, Mortandad, Los Alamos, and Water Canyons. The majority of discharges came from support facilities, not facilities not tied directly to operations (such as research or production). Two facilities, the TA-46 SWWS Plant and the TA-3 steam plant, accounted for about 78 percent of all water discharged in 2009; these discharges were made to Sandia Canyon (LANL 2011b).

3.6.2 Groundwater

Three types of groundwater are present in the LANL region: (1) perched alluvial groundwater in watershed canyon bottom sediments, (2) intermediate-depth zones of perched groundwater (that is, location is controlled by recharge availability and changes in rock permeability), and (3) the regional aquifer beneath the watersheds. In wet canyons, surface water runoff from streams percolates downward through the alluvium until less-permeable layers of tuff impede its progress. Shallow bodies of perched groundwater are maintained within the alluvium unless the downward flow is not impeded by impermeable (or less permeable) layers of tuff. If not impeded by less permeable layers, surface water eventually reaches the regional aquifer (DOE 2008a).

The Los Alamos area regional aquifer occurs at a depth of approximately 1,200 feet (370 meters) along the Pajarito Plateau's western edge and approximately 600 feet (180 meters) along the plateau's eastern edge. In the central portion of the plateau, the regional aquifer occurs at a depth of approximately 1,000 feet (300 meters)**.** Characterization of the regional aquifer (such as directional movement of water flow, main source of recharge, annual deficit in the groundwater table) can be found in the 2008 *LANL SWEIS*. Shallow perched alluvial groundwater and intermediate-depth perched groundwater is not a source of municipal drinking water in the Los Alamos area. The area of saturation deep below the ground surface that forms the regional groundwater aquifer serves as the only regional aquifer in the area that is capable of providing the public water supply for various customers including LANL, Los Alamos County, Bandelier National Monument, and other consumers located in portions of Santa Fe and Rio Arriba Counties (DOE 2008a).

Compliance activities performed through the Water Stewardship Program at LANL in 2009 to manage and protect groundwater monitoring resources included groundwater monitoring (groundwater sampling to monitor water quality beneath the Pajarito Plateau and the surrounding area), groundwater investigations, and groundwater monitoring well construction. Groundwater monitoring and characterization is performed in compliance with the requirements of Federal and State of New Mexico laws and regulations and DOE orders. Groundwater samples are collected from wells and springs within or adjacent to LANL and from the nearby Pueblo of San Ildefonso. Detailed information on groundwater monitoring, including analytical results, is presented in the LANL annual site environmental report (LANL 2010b).

Groundwater monitoring beyond LANL boundaries is conducted in locations affected by LANL operations in the past, as well as in areas unaffected by LANL for the purpose of providing baseline data. Since the 1940s, liquid effluent discharge at LANL has affected water quality in the shallow perched alluvial groundwater. Liquid effluent discharge is also the primary means by which LANL contaminants have affected the quality of intermediate-depth perched zones and the regional aquifer**.** However, due to the separation of the regional aquifer (600 feet to 1,200 feet [180 to 370 meters] below dry rock on the Pajarito Plateau) from contaminated alluvial and intermediate-depth perched groundwater bodies, less contamination reaches the regional aquifer than is found in the shallow perched groundwater and impacts on the regional aquifer are either reduced or do not occur (LANL 2010b).

Four canyons (Sandia, Water [and its tributary Cañon de Valle], Mortandad, and Los Alamos) continue to receive LANL effluent discharges, although LANL has implemented an Outfall Reduction Program to reduce the total number of outfalls discharging to the environment under NPDES Permit No. NM0028355. Sandia Canyon receives the largest liquid discharge volumes of any watershed canyon due to releases of power plant cooling water and water from the SWWS Plant. Sandia Canyon has a small drainage area that heads at TA-3. Treated effluents from the TA-46 SWWS Plant have been routed to Sandia Canyon since 1992. Past discharges have included accidental releases from experimental reactors and laboratories at TA-46. In the past, LANL also released wastewater into Water Canyon and Cañon de Valle from several high-explosives processing sites in TA-16 and TA-9 (LANL 2010b).

Mortandad Canyon also has a small drainage area that heads at TA-3, receiving inflow from natural precipitation and several NPDES-permitted outfalls, including one from RLWTF at TA-50. Intermediate-depth groundwater sampling in Mortandad Canyon indicates an impact by LANL effluents, with some contaminant concentrations near or exceeding regulatory standards or screening levels (LANL 2010b). Radionuclide levels in Mortandad Canyon alluvial groundwater are, in general, highest just below the RLWTF outfall in TA-50 and decrease down the canyon. Los Alamos Canyon receives stormwater runoff from LANL as well as discharge of effluent from LANL operations. Alluvial and intermediate-depth groundwater in Los Alamos Canyon indicates effects of past effluent releases from LANL. DOE has removed contaminated sediment in the canyon that was known to contain radionuclides from past LANL operations (DOE 2008a).

Drinking water wells in the Los Alamos area have not been affected by LANL discharges, with one exception. Perchlorate was found in Well O-1 in Pueblo Canyon during 2009 at concentrations up to 58 percent of the 4 micrograms per liter 2005 Consent Order[6] screening level and 16 percent of EPA's interim health advisory for perchlorate in drinking water of 15 micrograms per liter. Although perchlorate levels are below regulatory limits, Los Alamos County does not use the well for public water supply. In 2009, no radioactive analyte concentration values in a water supply well exceeded any regulatory standard, including the 4-millirem per year DOE Derived Concentration Guide applicable to drinking water (LANL 2010b). All drinking water produced by the Los Alamos County water supply system meets Federal and state drinking water standards.

In 2009, alluvial groundwater sampling of several wells along Pajarito Road indicated high chloride and total dissolved solids concentrations. Runoff related to winter road salting (resulting in an increase in chloride, sodium, and total dissolved solids levels) is the apparent cause (LANL 2010b).

[6] *In March 2005, NMED, DOE, and the LANL management and operating contractor entered into a Compliance Order on Consent (Consent Order) (NMED 2005). The purposes of the Consent Order are (1) to define the nature and extent of releases of contaminants at, or from, LANL; (2) to identify and evaluate, where needed, alternatives for corrective measures to clean up contaminants in the environment and prevent or mitigate the migration of contaminants at, or from, LANL; and (3) to implement such corrective measures.*

3.7 Ecological Resources

3.7.1 Terrestrial Resources

LANL is located in a region of diverse landform, elevation, and climate. The combination of these features, including past and present human use, has given rise to correspondingly diverse, and often unique, biological communities and ecological relationships at LANL and the region as a whole.

LANL contains diverse ecosystems due partly to changes in elevation, temperature, and moisture along the approximately 12-mile- (19-kilometer-) wide, 5,000-foot (1,520-meter) elevational gradient from the peaks of the Jemez Mountains to the Rio Grande. Approximately 20 percent of the site has been developed (LANL 2011a:Data Call Tables, 001). The remaining land has been classified under five vegetation zones, including: Juniper (*Juniperus monosperma* [Engelm.] Sarg.) Savannas; Pinyon (*Pinus edulis* Engelm.)–Juniper Woodlands; Grasslands; Ponderosa Pine (*Pinus ponderosa* P. & C. Lawson) Forests; and Mixed Conifer Forests composed of Douglas fir (*Pseudotsuga menziesii* [Mimel] Franco), ponderosa pine, and white fir (*Abies concolor* [Gord. & Glend.] Lindl. ex Hildebr.) (**Figure 3–8**). This diversity in vegetation communities is reflected by the presence of over 900 species of vascular plants (DOE 2003b, 2008a).

Terrestrial animals associated with vegetation zones in the LANL area include 57 species of mammals, 200 species of birds, 28 species of reptiles, and 9 species of amphibians, and over 1,200 species of arthropods (DOE 2008a). Common animals found on LANL include the black-headed grosbeak (*Pheuclicus melanocephalus*), western bluebird (*Sialia mexicana*), elk (*Cervus elaphus*), and raccoon (*Procyon lotor*). Numerous raptors, such as the red-tailed hawk (*Buteo jamaicensis*) and great-horned owl (*Bubo virginianus*), and carnivores, such as the black bear (*Ursus americanus*) and bobcat (*Lynx rufus*), are also found on LANL (DOE 2003b). A variety of migratory birds recorded at the site are protected under the Migratory Bird Treaty Act, including the bald eagle, which is currently monitored and protected under the Bald and Golden Eagle Protection Act.

Impacts on site terrestrial resources have resulted from construction of new facilities, the Cerro Grande Fire, a bark beetle outbreak, a period of severe drought, and more recently the Las Conchas Fire (DOE 2008a; USDA 2011). In 2000, the Cerro Grande Fire burned 43,150 acres (17,460 hectares), including 7,684 acres (3,110 hectares) of forest area within LANL, dramatically altering the habitat of many animals. Starting in 1997, forests around LANL have been thinned to reduce future wildfire potential (DOE 2008a). Between 2008 and 2010, 955 acres (386 hectares) of forest have been thinned under a LANL Wildfire Mitigation Plan; an additional 397 acres (161 hectares) will be thinned in 2011 (LANL 2011f). Thinning creates a forest that appears more park-like and has increased the diversity of shrubs, herbs, and grasses in the understory (Loftin 2001).

Within 2 years of the Cerro Grande Fire, a bark beetle outbreak occurred that contributed to high mortality of pinyon, ponderosa pine, and Douglas fir trees. While at least partially the result of the fire, the bark beetle outbreak appears to be more a consequence of stress resulting from drought conditions (DOE 2008a).

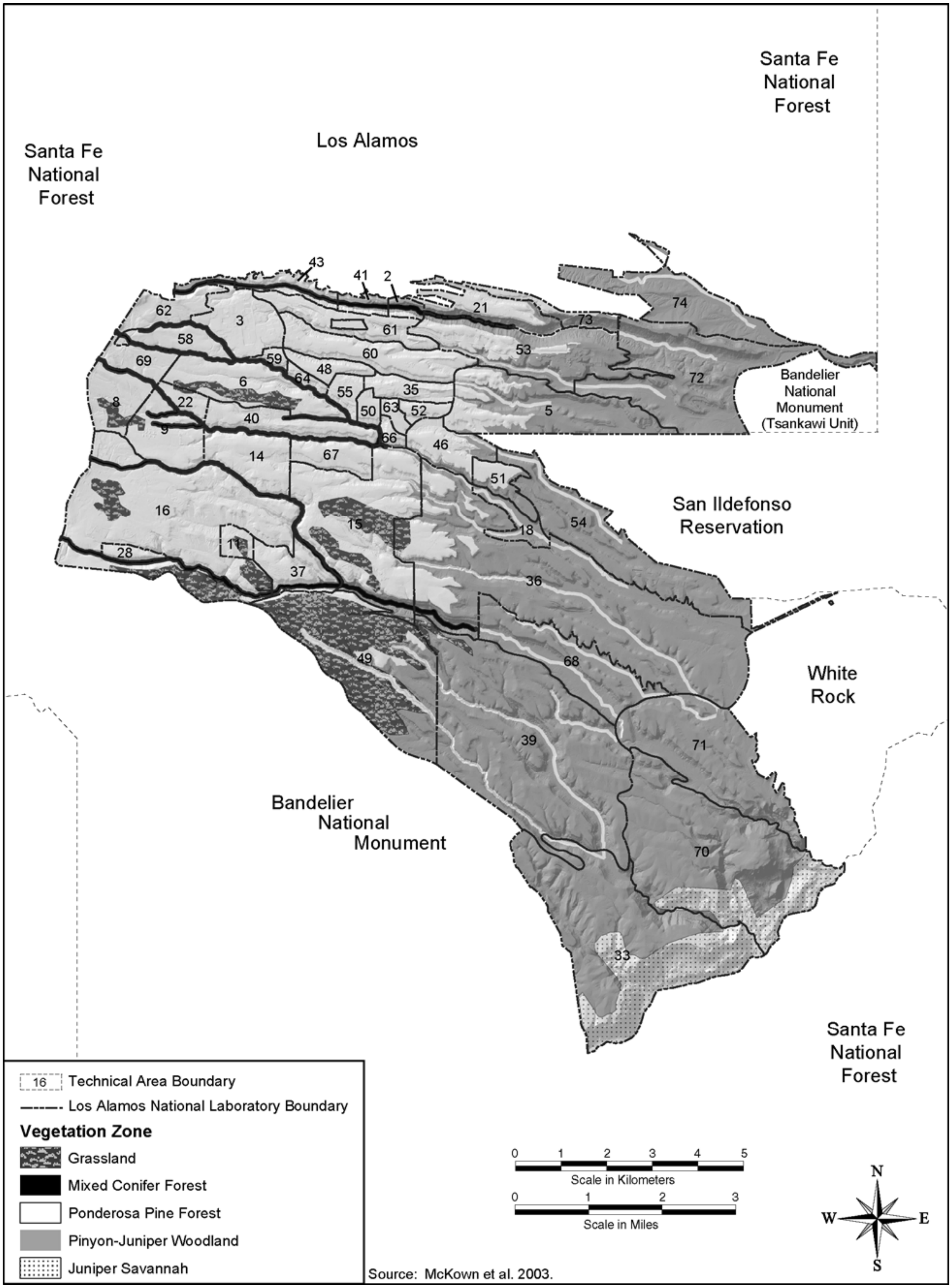

Figure 3–8 Los Alamos National Laboratory Vegetation Zones

As of July 20, 2011, 156,590 acres (63,370 hectares) of land had been burned as a result of the Las Conchas Fire. This includes 118 acres (47.8 hectares) on LANL, most of which was an intentional back-burn and caused loss of vegetation and wildlife habitat. In addition, Lab crews continue to install flood and erosion control measures to protect terrestrial habitats and inhibit the flow of sediments (LANL 2011a:LANL Site, 029; LANL 2011g; USDA 2011).

Table 3–10 identifies the vegetation zones encompassed by the technical areas potentially affected by the proposed action or alternatives. The table also presents the acreage of wetlands occurring within these technical areas, discussed in the following section.

Table 3–10 Terrestrial Resources of Technical Areas of Concern

Technical Area	*Vegetation Zone*	*Wetlands (acres)*
3	Ponderosa Pine Forest, Mixed Conifer Forest	0.13
5	Ponderosa Pine Forest, Pinyon–Juniper Woodland	0
36	Pinyon–Juniper Woodland, Ponderosa Pine Forest; Grassland	15.23
46	Ponderosa Pine Forest, Pinyon–Juniper Woodland	0
48	Ponderosa Pine Forest	1.11
50	Ponderosa Pine Forest, Mixed Conifer Forest	0
51	Ponderosa Pine Forest, Pinyon–Juniper Woodland	0
52	Ponderosa Pine Forest	0
54	Pinyon–Juniper Woodland, Ponderosa Pine Forest	0
55	Ponderosa Pine Forest, Mixed Conifer Forest	1.19
63	Ponderosa Pine Forest	0
64	Ponderosa Pine Forest, Mixed Conifer Forest	0
72	Pinyon–Juniper Woodland, Ponderosa Pine Forest	0

Note: To convert acres to hectares, multiply by 0.40469.
Source: ACE 2005; McKown et al. 2003.

3.7.2 Wetlands

Wetlands in the LANL region provide habitat for reptiles, amphibians, and invertebrates (e.g., insects), and potentially contribute to the overall habitat requirements of a number of federally and state-listed species. A majority of the wetlands in the area is associated with canyon stream channels or are present on mountains or mesas as isolated meadows, often in association with springs, seeps, or effluent outfalls. Cochiti Lake and the area near the LANL Fenton Hill site (TA-57) support lake-associated wetlands. There are also some springs within White Rock Canyon that support wetlands (DOE 2008a).

Approximately 34 acres (14 hectares) of wetlands have been identified within LANL boundaries, with 45 percent of these located in Pajarito Canyon. Of these wetlands, 13 acres (5 hectares) were created or enhanced by process effluent wastewater from NPDES-permitted outfalls. This total has most likely been reduced due in part to closure or rerouting of the outfall sources. Dominant wetland plants found in site wetlands include reed canarygrass (*Phalaris arundinacea* L.), narrowleaf cattail (*Typha angustifolia* L.), coyote willow (*Salix exigua* Nutt.), Baltic rush (*Juncus balticus* Willd.), wooly sedge (*Carex pellita* Muhl. ex Willd.), American speedwell (*Veronica americana* Schwein. ex Benth.), common spike rush (*Eleocharis palustris* [L.] Roem. & Schult.), and curly dock (*Rumex crispus* L.) (ACE 2005).

During the Cerro Grande Fire, 16 acres (6 hectares), or 20 percent of the wetlands occurring at LANL, were burned at a low or moderate intensity. Increased sedimentation as a secondary effect from the fire to wetlands also occurred as a result of increased stormwater runoff due to the loss of vegetation (DOE 2008a).

Thirty separate wetlands occupy portions of 14 technical areas within LANL. This includes two in TA-3, nine in TA-36, four in TA-48, and one in TA-55 (see Table 3–10). The wetlands in TA-3, which total 0.13 acres (0.05 hectares), lie within Sandia Canyon where three NPDES-permitted outfalls discharge effluent to upper Sandia Canyon (NNSA 2010b). Vegetation associated with these wetlands includes rush (*Juncus* spp.), willow (*Salix* sp.), and broadleaf cattail (*Typha latifolia* L.). The nine wetlands located in TA-36 total 15.23 acres (6.16 hectares) and are located along Pajarito Canyon. Plants found within these wetlands include coyote willow, Baltic rush, sedges, common spike rush, American speedwell, and cattail. Three of the four wetlands in TA-48 are located between TA-48 and TA-60 in Mortandad Canyon. These wetlands, which total about 1.11 acres (0.45 hectares), are characterized by coyote willow, Baltic rush, cattail, and wooly sedge. The fourth wetland in TA-48, which is smaller than 0.1 acres (0.04 hectares), is located between TA-48 and TA-55 and is dominated by cattail. The wetland within TA-55 is within a branch of Mortandad Canyon between TA-55 and TA-48; it covers 1.19 acres (0.48 hectares). This wetland is also dominated by cattails (ACE 2005; DOE 2003b, 2008a). No wetlands have been identified in other technical areas of concern.

3.7.3 Aquatic Resources

The Rito de Los Frijoles in Bandelier National Monument (located to the south of LANL) and the Rio Grande are the only truly perennial streams in the LANL region; however, several of the canyon floors within LANL contain reaches of perennial surface water. Some perennial streams occur in lower Pajarito and Ancho Canyons, which flow to the Rio Grande. Surface water flow occurs in canyon bottoms seasonally or intermittently as a result of spring snowmelt and summer rain. A few short sections of riparian vegetation of cottonwood (*Populus deltoides* Bartr. ex. Marsh, ssp. *wislizeni*, [S. Wats.] Eckenwalder), willow, and other wetland plants are present in scattered locations at LANL, as well as along the Rio Grande in White Rock Canyon. The springs and streams at LANL do not support fish populations; however, many other animal species utilize these waters. For example, terrestrial wildlife use onsite streams for drinking and associated riparian habitat for nesting and feeding (DOE 2003b).

No ponds or permanent streams are identified in any of the technical areas of concern; therefore, aquatic habitat is minimal and associated with ponding within wetland areas (LANL 2011a:Data Call Tables, 001). As explained in Section 3.7.2, wetlands are present at TA-3 within Sandia Canyon, TA-36 within Pajarito Canyon, and TA-48 and TA-55 within Mortandad Canyon.

3.7.4 Threatened and Endangered Species

The presence of, and use of LANL by, protected and sensitive species is influenced not only by the actual presence and operation of the facility, but by management of contiguous lands and resources, and by years of human use. A number of federally and state-listed species have been documented in the LANL region. **Table 3–11** provides a list of Federal and state threatened and endangered (and other special status) species occurring or possibly occurring on LANL. LANL contains potential habitat for two federally endangered species (Southwestern willow flycatcher [*Empidonax traillii extimus*] and black-footed ferret [*Mustela nigripes*]), one federally threatened species (Mexican spotted owl [*Strix occidentalis lucida*]), and three candidate species (Jemez Mountains salamander [*Plethodon neomexicanus*], yellow-billed cuckoo [*Coccyzus americanus*], and New Mexico meadow jumping mouse [*Zapus hudsonius luteus*]).

To provide for the protection of non-federally listed threatened or endangered species at LANL, the *Sensitive Species Best Management Practices Source Document, Version 1* (LANL 2010j) was developed as a site-wide mitigation plan to reduce risks to special status species protected at the state or local level.

The categories of special status species addressed in this plan include Federal candidate species and species of concern, as well as New Mexico endangered, threatened, sensitive, and critically imperiled species. The best management practices assist in making recommendations for project activities at LANL and provide mitigation measures for the reduction of risks to sensitive species. When LANL contractor personnel perform surveys, they look for and record the occurrence of these special status species.

There is no evidence that the Cerro Grande Fire caused a long-term change in the overall number of federally listed threatened or endangered species inhabiting the region within LANL. The species of greatest concern at LANL is the Mexican spotted owl. Individual Mexican spotted owls were seen within weeks of the fire and in all subsequent breeding seasons at LANL; however, there was no recorded Mexican spotted owl breeding after the 2000 Cerro Grande Fire until 2005 when a nested pair was again observed within the LANL boundaries (DOE 2008a). As stated in Section 3.7.1, the Las Conchas Fire affected 118 acres (47.8 hectares), most of which was an intentional back-burn (LANL 2011a:LANL Site, 029; USDA 2011). Although this caused loss of wildlife habitat, the wildfire did not impact habitat identified for protection of threatened and endangered species at LANL, including the Mexican spotted owl.

Table 3–11 Threatened and Endangered and Other Sensitive Species of Los Alamos National Laboratory

Common Name	*Scientific Name*	*Federal Status* [a]	*State Status* [b]	*Potential to Occur* [c]
Mammals				
Big Free-tailed Bat	*Nyctinomops macrotis*	SOC	S	High
Black-footed Ferret	*Mustela nigripes*	FE	–	Low
Fringed Bat	*Myotis thysanodes*	–	S	High
Goat Peak Pika	*Ochotona princeps nigrescens*	SOC	S	Low
Long-eared Bat	*Myotis evotis*	–	S	High
Long-legged Bat	*Myotis volans interior*	–	S	High
New Mexico Meadow Jumping Mouse	*Zapus hudsonius luteus*	C	SE	Moderate
Red Fox	*Vulpes vulpes*	–	S	Moderate
Ringtail	*Bassariscus astutus*	–	S	High
Spotted Bat	*Euderma maculatum*	SOC	ST	High
Townsend's Pale Big-eared Bat	*Corynorhinus townsendii pallescens*	SOC	S	High
Western Small-footed Myotis Bat	*Myotis ciliolabrum melanorhinus*	SOC	S	High
Yuma Bat	*Myotis yumanensis*	SOC	S	High
Birds				
American Peregrine Falcon	*Falco peregrinus anatum*	D	ST	High
Arctic Peregrine Falcon	*Falco peregrinus tundrius*	D	ST	Moderate
Bald Eagle	*Haliaeetus leucocephalus*	D	ST	High
Broad-billed Hummingbird	*Cyanthus latirostris magicus*	–	ST	Low
Gray Vireo	*Vireo vicinior*	SOC	ST	Moderate
Loggerhead Shrike	*Lanius ludovicianus*	SOC	S	High
Mexican Spotted Owl	*Strix occidentalis lucida*	FT	ST	High
Northern Goshawk	*Accipiter gentilis*	–	S	High
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	FE	SE	High
White-faced Ibis	*Plegadis chihi*	SOC	–	Moderate
Yellow-billed Cuckoo	*Coccyzus americanus*	C	S	Moderate
Fish				
Rio Grande Chub	*Gila Pandora*	–	S	Moderate

Common Name	***Scientific Name***	***Federal Status*** [a]	***State Status*** [b]	***Potential to Occur*** [c]
Amphibians				
Jemez Mountains Salamander	*Plethodon neomexicanus*	C	SE	High
Insects				
New Mexico Silverspot Butterfly	*Speyeria nokomis nitocris*	SOC	–	Moderate
Plants				
Greater Yellow Lady's Slipper	*Cypripedium calceolus var. pubescens*	–	SE	Moderate
Wood Lily	*Lilium philadelphicum var. anadinum*	–	SE	High

[a] *Federal Status*

FE = Federally Endangered; in danger of extinction throughout all or a significant portion of its range.

FT = Federally Threatened; likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

C = Candidate; substantial information exists in the U.S. Fish and Wildlife Service files on biological vulnerability to support proposals to list as endangered or threatened.

SOC = Species of Concern; conservation standing is of concern, but status information is still needed and the species does not receive recognition under the Endangered Species Act.

D = Federally delisted due to recovery, currently monitored.

[b] *State Status*

SE = State Endangered

Animal: any species or subspecies whose prospects of survival or recruitment in New Mexico are in jeopardy.

Plant: a taxon listed as threatened or endangered under provision of the Federal Endangered Species Act, or is considered proposed under the tenets of the act, or is a rare plant across its range within the state, and of such limited distribution and population size that unregulated taking could adversely impact it and jeopardize its survival in Mexico.

ST = State Threatened

Animal: any species or subspecies that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in New Mexico.

Plant: New Mexico does not list plants as threatened.

S = Sensitive; those taxa that, in the opinion of a qualified New Mexico Department of Game and Fish biologist, deserve special consideration in management and planning, and are not listed as threatened or endangered by the State of New Mexico.

[c] *Potential Occurrence*

Low = No known habitat exists on Los Alamos National Laboratory.

Moderate = Habitat exists, though the species has not been recorded recently.

High = Habitat exists and the species is recorded to occur at Los Alamos National Laboratory.

Source: DOE 2008a; LANL 2011a:Ecological Resources, 018, 2011c; USFWS 2010.

Habitat that is either occupied by federally protected species or potentially suitable for use by these species in the future has been delineated within LANL and is protected by the *Threatened and Endangered Species Habitat Management Plan* (LANL 2011c). Site plans and monitoring plans for federally listed threatened and endangered species that occur or may occur within LANL are defined in the Habitat Management Plan and designed to provide a balance of current operations and future development needs of LANL with the habitat requirements of the threatened and endangered species. The Habitat Management Plan also facilitates DOE compliance with the Endangered Species Act and related Federal regulations. Each site plan within the Habitat Management Plan identifies areas of environmental interest (AEIs) for various federally listed threatened or endangered species. In general, an AEI consists of a core area that contains potential important breeding or wintering habitat for a specific species and a buffer area around the core area. The buffer protects the core area from disturbances that would degrade its value. The Habitat Management Plan defines the types and levels of activities that may be conducted within these areas. AEIs have been established for the Mexican spotted owl and southwestern willow flycatcher. AEIs have not been established for any other federally protected animal species at LANL, as suitable habitat for these species either does not occur at LANL or the species have never been recorded to be present in the LANL area (LANL 2011c).

Annual surveys of the Mexican spotted owl have been conducted on LANL since 1993. In 1995, a pair of Mexican spotted owls and their nest was observed on LANL property. Since then, the nesting territory has been occupied and young have fledged in multiple years. In 2007, a second pair of Mexican spotted owls and their nest was observed and has also produced young. Annual surveys are done for the Mexican spotted owl, the southwestern willow flycatcher, and the black-footed ferret. Only the Mexican spotted owl has been observed during those surveys. Although willow flycatchers have been observed at one location on LANL during migratory season surveys, it has not been possible to confirm the presence of the southwestern subspecies. Management of AEIs and mitigation measures for proposed projects result in part from these surveys (LANL 2011a:Ecological Resources, 019).

The Sandia–Mortandad Canyon Mexican Spotted Owl AEI, located in Sandia and Mortandad Canyons, encompasses a number of the technical areas of concern. This AEI overlaps with both the Pajarito Canyon and Los Alamos Canyon Mexican Spotted Owl AEIs. Specifically, parts of TA-3, -5, -36, -46, -48, -50, -52, -55, -63, and -64 are within the core and/or buffer zones of the Sandia–Mortandad Canyon, Pajarito Canyon, and/or Los Alamos Canyon Mexican Spotted Owl AEIs. The Three-Mile Canyon Mexican Spotted Owl AEI affects a small section of TA-51 within the buffer zone and a northern part of TA-36 within the core and buffer zones. A southern portion of TA-36 is also within the core and buffer zones of the Cañon de Valle Mexican Spotted Owl AEI. Other technical areas of concern, such as TA-54 and TA-72, do not fall within any Mexican Spotted Owl AEIs. Also, the southwestern willow flycatcher AEI falls completely within TA-36.

3.8 Cultural and Paleontological Resources

Cultural resources are human imprints on the landscape that are defined and protected by a series of Federal laws, regulations, and guidelines and include archaeological resources, historic buildings and structures, and traditional cultural properties. To fully meet the requirements of these laws, regulations, and guidelines, DOE is implementing *A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico* (LANL 2006a). Implementation of this plan involves a Programmatic Agreement between DOE, the Advisory Council on Historic Preservation, and the New Mexico State Historic Preservation Office (DOE 2006b). By carrying out the terms of the agreement, DOE will fulfill its responsibilities under Section 106 of the National Historic Preservation Act. Paleontological resources, the physical remains, impressions, or traces of plants or animals from a former geologic age, are also addressed in this section.

3.8.1 Archaeological Resources

As of 2010, archaeological surveys have been conducted on over 88 percent of the land within LANL boundaries. A total of 1,890 archaeological resource sites currently exist on the site; of these, most are prehistoric sites related to the Archaic and Ancestral Pueblo Cultures (DOE 2008a).

Following the Cerro Grande Fire, surveys identified 333 archaeological resource sites that were affected by that fire. Of these sites, 269 were damaged by the fire, 35 by suppression activities, and 29 by rehabilitation activities. Damage included direct loss, soot staining, spalling, and cracking of stone masonry walls of Ancestral Pueblo field houses and room blocks, and exposure of artifacts from erosion. Additionally, the fire, as well as prior and subsequent tree thinning measures taken to reduce wildfire hazard, resulted in the discovery of 447 new archaeological sites at LANL (DOE 2008a).

The conveyance and transfer of land has resulted in the removal of some archaeological sites from DOE protection. However, in some cases, archaeological protection easements have been used to provide continued protection for many of these sites (DOE 2008a). Sites located on lands to be conveyed to

Los Alamos County for economic development were excavated and therefore mitigated under the Programmatic Agreement (DOE 1999c; LANL 2008b).

Table 3–12 provides a summary of the number of prehistoric and historic sites present within the technical areas of concern that are eligible or potentially eligible for listing on the National Register of Historic Places (NRHP) and the types of archaeological sites present.

Table 3–12 Archaeological Sites Present within the Technical Areas of Concern

Technical Area	*Eligible and Potentially Archaeological Sites* [a]	*Archaeological Site Types*
3	6	Cultural management unit, historic other, lithic scatter, trail and/or stair
5	60	Lithic and ceramic scatter, game pit, complex pueblo, cavate, 1- to 3-room structure, historic structure, lithic scatter, rock art, wagon road, pueblo roomblock, trail and/or stair, water control
36	402	Lithic and ceramic scatter, game pit, complex pueblo, cavate, 1- to 3-room structure, Garden plot, lithic scatter, prehistoric other, rock art, wagon road, rock/wood enclosure, rock feature, rock ring, rock shelter, pueblo roomblock, trail and/or stair, water control
46	12	Lithic and ceramic scatter, cavate, 1- to 3-room structure, lithic scatter, pueblo roomblock
48	2	1- to 3-room structure, historic structure
50	0	
51	26	Lithic and ceramic scatter, cavate, 1- to 3-room structure, lithic scatter, wagon road, rock feature, rock shelter, pueblo roomblock
52	6	Cavate, rock shelter
54	97	Lithic and ceramic scatter, complex pueblo, cavate, 1- to 3-room structure, garden plot, historic artifact scatter, lithic scatter, prehistoric other, rock art, wagon road, rock feature, rock shelter, pueblo roomblock
55	2	Historic structure, rock shelter
63	0	
64	0	
72	93	Lithic and ceramic scatter, game pit, cultural management unit, complex pueblo, cavate, 1- to 3-room structure, garden plot, historic other, historic structure, lithic scatter, prehistoric other, pit structure, rock art, rock/wood enclosure, rock feature, rock ring, rock shelter, pueblo roomblock, trail and/or stair

[a] Includes sites that have been determined eligible and potentially eligible and those proposed as eligible and potentially eligible.

3.8.2 Historic Buildings and Structures

In terms of the historic built environment, there are 440 buildings and structures that date to the Manhattan Project and early Cold War, of which 21 date back to the Manhattan Project. A total of 335 of these 440 buildings and structures have been evaluated for eligibility for inclusion in the NRHP, of which 160 have been determined eligible and 165 ineligible. Among those buildings deemed eligible is the CMR Building in TA-3, which is important due to its association with important events during the Cold War years and its architectural and engineering significance (Garcia, McGehee, and Masse 2009). These figures include a small number of structures younger than 50 years in age that are likely to be deemed of exceptional national significance and are thus eligible for inclusion in the NRHP despite not yet having achieved the 50-year age limit normally required for inclusion (DOE 2008a).

A number of factors have served to greatly reduce the number of Manhattan Project buildings still extant. These include (1) the expedient initial construction of the original buildings and structures; (2) post-

Manhattan Project infrastructure development, particularly during the late 1950s and early 1960s, and again beginning in the late 1990s through the first decade of the twenty-first century; (3) the development of the Los Alamos townsite during the 1950s and 1960s; (4) the Cerro Grande Fire; and (5) contamination of some buildings by asbestos and radioactive isotopes. As of 2003, only 28 Manhattan Project buildings retained sufficient historical and physical integrity for listing on the NRHP, and only a handful are deemed suitable for long-term preservation and interpretation (LANL 2006a).

3.8.3 Traditional Cultural Properties

Within the boundaries of LANL there are ancestral villages, shrines, petroglyphs (carvings or line drawings on rocks), sacred springs, trails, and traditional use areas that could be identified by Pueblo and Hispanic communities as traditional cultural properties. In addition to physical cultural entities, concern has been expressed that "spiritual," "unseen," "undocumentable," or "beingness" aspects may be present at LANL that are an important part of Native American culture. According to the DOE compliance procedure, Native American tribes may request permission for visits to sacred sites within LANL boundaries for ceremonies or other purposes to insure visitor safety and site security (DOE 1999a, 2008a).

When a project is proposed, NNSA arranges site visits with tribal representatives from the San Ildefonso, Santa Clara, Jemez, and Cochiti Pueblos, as appropriate, to solicit their concerns and to comply with applicable requirements and agreements. Provisions for coordination among these four pueblos and DOE are contained in Accords agreements that were entered into beginning in 1992 for the purpose of improving communication and cooperation among Federal and tribal governments (DOE 1999a, 2008a). In accordance with the Accords and as part of NNSA's Government-to-Government interactions, twice yearly executive meetings are held among the Los Alamos Site Office Manager, the LANL Director, and the respective Pueblo Governors (or their representatives) of the four Accord Pueblos (Cochiti, San Ildefonso, Jemez, and Santa Clara). In addition, the Los Alamos Site Office Manager meets monthly with each governor of the two pueblos closest to LANL (San Ildefonso and Santa Clara) and with the other Accord Pueblo Governors on a less frequent basis. In both the executive meetings and the monthly meetings, the Los Alamos Site Office Manager discusses current and planned activities taking place at LANL and seeks comment on these activities from the governors. Additional information on consultation is presented in Chapter 5, Section 5.7.

A "Comprehensive Plan for the Consideration of Traditional Cultural Properties and Sacred Sites at Los Alamos National Laboratory, New Mexico" was sent by DOE in 2000 to 24 tribes to help complete the traditional cultural properties identification and evaluation process begun during the 1999 *LANL SWEIS* preparation process. Only the Pueblo of San Ildefonso responded with site information; however, DOE continues to consult with various Pueblos to maintain an open dialog. LANL missions are aware of the needs of the Pueblos and are respectful of times when the Pueblos participate in ceremonies and rituals. Various agreements, Memoranda of Agreement, Memoranda of Understanding, and Programmatic Agreements are in place with San Ildefonso, Santa Clara, and other Pueblos to allow individuals access to areas across LANL (DOE 2008a).

3.8.4 Paleontological Resources

A single paleontological artifact has been discovered at a site formerly within LANL boundaries that has since been conveyed to Los Alamos County; however, in general, the near-surface stratigraphy is not conducive to preserving plant and animal remains. The near-surface materials at LANL are volcanic ash and pumice that were extremely hot when deposited; most carbon-based materials (such as bones or plant remains) would likely have been vaporized or burned if present (DOE 2008a). No paleontological resources have been identified within any of the technical areas of concern for the impact analyses across the three alternatives analyzed in this SEIS.

3.9 Socioeconomics

Statistics for the local economy, population, and housing are presented for the ROI, a four-county area in New Mexico made up of Los Alamos, Santa Fe, Sandoval, and Rio Arriba Counties (see Figure 3–1). In 2010, there were 13,474 people employed at LANL. The majority of all LANL employees reside in this four-county area. It is estimated that approximately half of the LANL workforce resides in Los Alamos County (LANL 2011a:Data Call Tables, 001).

3.9.1 Regional Economic Characteristics

Between 2000 and 2010, the civilian labor force in the four-county area increased 14.7 percent, to about 165,000 persons. In 2010, the annual unemployment average in the ROI was 7.8 percent, which was less than the annual unemployment average of 8.4 percent for New Mexico (NMDWS 2010, 2011a). By May 2011, the unemployment rates in the ROI and the State of New Mexico decreased to 6.0 percent and 6.5 percent, respectively (NMDWS 2011b).

In 2010, the total government employment sector (Federal, state, and local) represented the largest employment sector in the four-county area (26.3 percent). This was followed by professional and business services (16.5 percent) and trade, transportation, and utilities (14.6 percent). For comparison, the totals for these employment sectors in New Mexico represented 24.2 percent, 12.8 percent, and 16.9 percent of employment, respectively (BLS 2011).

3.9.2 Population and Housing

From 2000 to 2010, the total population in the ROI increased approximately 19.8 percent, to 333,927 persons. All of the increased population can be attributed to Sandoval and Santa Fe Counties, which experienced increases of 46.3 and 11.5 percent, to 131,561 and 144,170, respectively. Over this time, the total populations of Los Alamos and Rio Arriba Counties decreased to 17,950 (-2.1 percent) and 40,246 (-2.3 percent), respectively (DOC 2010a, 2011a).

Table 3–13 displays the number of housing units, vacancy rates, and median value for homes in the ROI. From 2000 to 2010, the total number of housing units in the ROI increased by 27.9 percent, to 151,546. Sandoval County accounted for the largest portion of growth, increasing by approximately 17,400 units (50.0 percent). Santa Fe County accounted for the second largest portion of growth, increasing by approximately 13,600 units (23.5 percent). The total number of housing units in Los Alamos and Rio Arriba Counties increased by approximately 420 units (5.3 percent) and 1,600 units (9.0 percent), respectively (DOC 2010b, 2011a).

In 2010, the four-county ROI had a homeowner vacancy rate of 2.2 percent and a renter vacancy rate of 8.5 percent. Homeowner vacancy rates within the ROI are higher in Sandoval (2.3 percent) and Santa Fe (2.6 percent) Counties than in Los Alamos (1.3 percent) and Rio Arriba (1.4 percent) Counties. The opposite is true for renter vacancy rates within the ROI. Renter vacancy rates are higher in Los Alamos (9.7 percent) and Rio Arriba (10.3 percent) Counties than in Sandoval (6.2 percent) and Santa Fe (9.2 percent) Counties (DOC 2011a). Los Alamos County is currently working on updating the County Comprehensive Plan and the Downtown Los Alamos Comprehensive Plan, as well as implementing the White Rock Master Plan, all of which include additional residential development.

Table 3–13 Housing Units and Vacancy Rates in the Region of Influence

	Los Alamos County	*Rio Arriba County*	*Sandoval County*	*Santa Fe County*	*Region of Influence*
2000 Housing Units [a]	7,937	18,016	34,866	57,701	118,520
2010 Housing Units [e]	8,354	19,638	52,287	71,267	151,546
Percent Change	5.3	9.0	50.0	23.5	27.9
Vacant Units for Sale	74	179	894	1,150	2,297
Owner-Occupied Units	5,828	12,528	38,558	42,878	99,792
Homeowner Vacancy Rate (percent)	1.3	1.4	2.3	2.6	2.2
Vacant Units for Rent	198	373	594	1,925	3,090
Renter-Occupied Units	1,835	3,240	9,044	19,085	33,204
Renter Vacancy Rate (percent)	9.7	10.3	6.2	9.2	8.5
Median Value	$287,900 [b]	$151,200 [c]	$ 188,700 [d]	$295,000 [d]	Not Available

[a] DOC 2010b.
[b] DOC 2010c.
[c] DOC 2010d.
[d] DOC 2010e.
[e] DOC 2011a.

Data on home values for the counties within the ROI are taken from the Census Bureau's American Community Survey (ACS). Availability of data for each county is dependent upon the total population thresholds required for inclusion in the ACS 1-year estimates, 3-year estimates, and 5-year estimates. The latest available data is presented for each county to provide the most up-to-date representation of conditions in the ROI. According to the Census Bureau's 2005-2009 ACS 5-Year Estimates, the median value of housing units in Los Alamos County was $287,900 (DOC 2010c). According to the Census Bureau's 2007–2009 ACS 3-Year Estimates, the median value of owner occupied housing units in Rio Arriba County was $151,200 (DOC 2010d).

In 2009, the median value of owner-occupied housing units in Sandoval and Santa Fe Counties was $188,700 and $295,000, respectively (DOC 2010e).

3.10 Environmental Justice

Under Executive Order 12898, DOE is responsible for identifying and addressing disproportionately high and adverse impacts on minority or low-income populations. As discussed in Appendix B, minority persons are those who identify themselves as Hispanic or Latino, Asian, Black or African American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, or multi-racial (with at least one race designated as a minority race under CEQ Guidelines (CEQ 1997). Persons whose income is below the Federal poverty threshold are designated as low income. In 2009, the poverty threshold for a family of four with two related children was $21,756 (DOC 2010f).

There are two locations at LANL being considered for operation of CMR activities. These are TA-3, and TA-55 (see Chapter 1, Figure 1–2). The location for the proposed new CMRR-NF at TA-55 is approximately 1.2 miles (1.9 kilometers) southeast of the existing CMR Building.

Populations in the ROI include persons who live within 50 miles (80 kilometers) of the existing CMR Building or the proposed location for the CMRR-NF at TA-55. There are eight counties included or partially included in the potentially affected areas surrounding these locations: Bernalillo, Los Alamos, Mora, Rio Arriba, Sandoval, San Miguel, Santa Fe, and Taos. Portions or all of 16 Pueblo or tribal lands have been identified within the potentially affected area. **Figure 3–9** displays the proximity of Pueblo and tribal lands within the 50-mile (80-mile) potentially affected area relative to LANL.

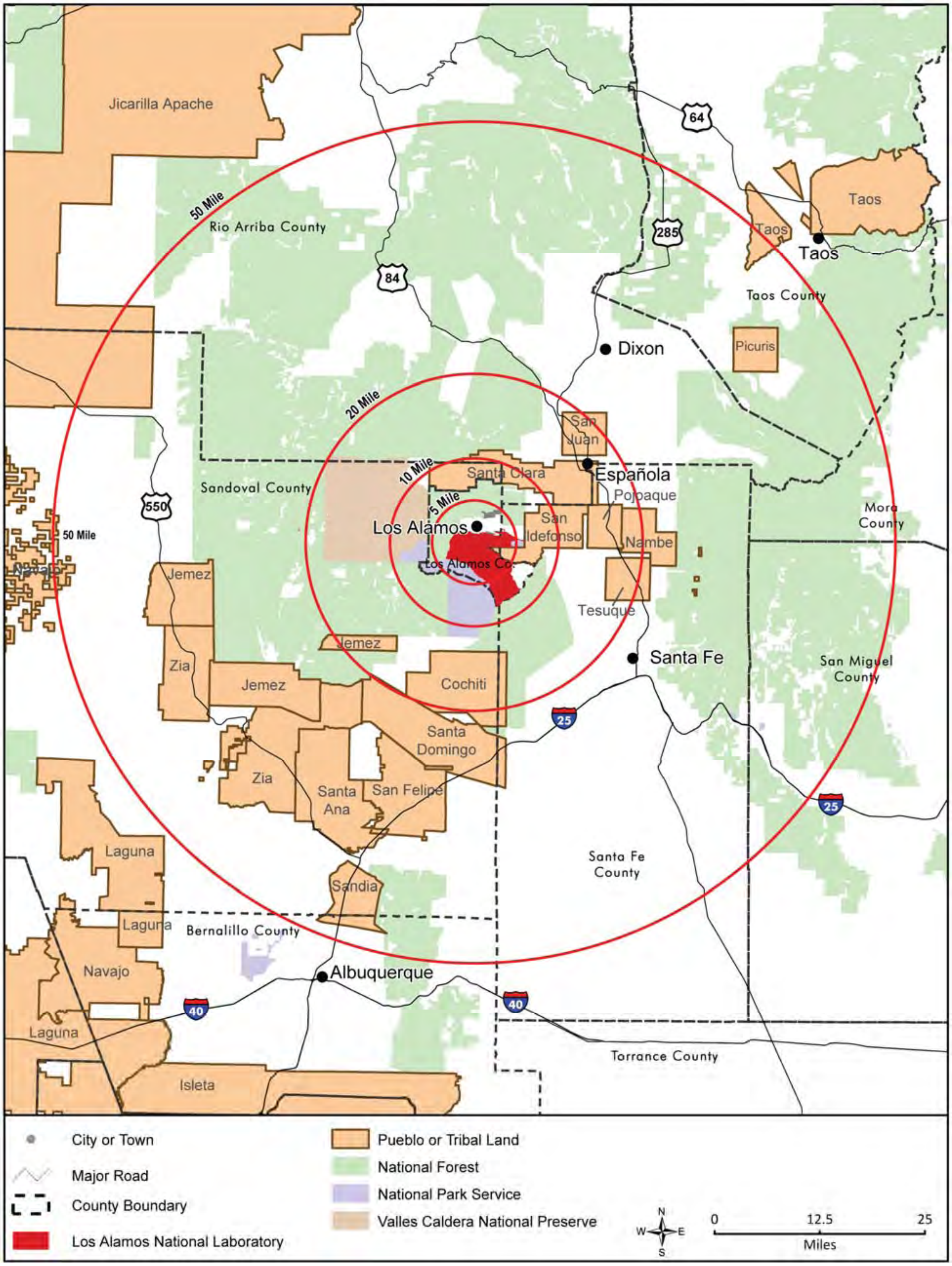

Figure 3–9 Pueblo and Tribal Lands within 50 Miles (80 kilometers) of Los Alamos National Laboratory

Consistent with the human health analysis, populations in the surrounding areas have been projected to the year 2030. To evaluate the potential impacts on populations in closer proximity to the proposed sites, additional radial distances of 5 miles (8 kilometers), 10 miles (16 kilometers), and 20 miles (32 kilometers) are also analyzed. **Tables 3–14** and **3–15** show the composition of the ROI surrounding TA-3 and TA-55 at each of these distances projected to 2030 using census data. The areas within 5 miles (8 kilometers) of each proposed site contain the lowest concentration of minority populations. The overall composition of the ROI is predominantly nonminority within the first 10 miles (16 kilometers). The areas between 10 and 20 miles (16 to 32 kilometers) contain the highest concentration of minority populations within the ROI. The percent of minority populations decreases slightly in the areas from 20 to 50 miles (32 to 80 kilometers); however, the overall composition of minority populations remains high. Similar to the minority populations, the concentration of low-income populations is lowest within the first 5 miles (8 kilometers).

Table 3–14 Projected Populations in 2030 Surrounding Technical Area 3

Population Group	***5-Mile Radius***		***10-Mile Radius***		***20-Mile Radius***		***50-Mile Radius***	
	Number	***Percent***	***Number***	***Percent***	***Number***	***Percent***	***Number***	***Percent***
Non-Minority	8,029	65	12,575	63	20,609	33	214,975	43
American Indian	96	1	866	4	4,392	7	26,009	5
Total Hispanic	2,275	18	3,909	20	33,385	54	230,434	46
Total Minority	4,319	35	7,330	37	41,791	67	287,478	57
Total Population	12,348	100	19,905	100	62,400	100	502,453	100
Low-Income	388	3	844	4	7,407	12	64,288	13

Note: To convert miles to kilometers, multiply by 1.6093.
Source: DOC 2011b.

Table 3–15 Projected Populations in 2030 Surrounding Technical Area 55

Population Group	***5-Mile Radius***		***10-Mile Radius***		***20-Mile Radius***		***50-Mile Radius***	
	Number	***Percent***	***Number***	***Percent***	***Number***	***Percent***	***Number***	***Percent***
Non-Minority	8,030	65	12,681	63	21,999	33	220,122	43
American Indian	142	1	939	5	4,828	7	25,944	5
Total Hispanic	2,303	19	4,026	20	35,175	53	233,555	46
Total Minority	4,401	35	7,538	37	44,157	67	291,353	57
Total Population	12,431	100	20,219	100	66,156	100	511,475	100
Low-Income	398	3	881	4	7,914	12	65,777	13

Note: To convert miles to kilometers, multiply by 1.6093.
Source: DOC 2011b.

Using data from the 1990 census, 2000 census, and the 2010 census for each of the affected counties within a 50-mile (80-kilometer) radius of LANL, projections of the affected populations were calculated for 2030. **Figure 3–10** shows the minority and nonminority populations by county projected to live within the potentially affected area surrounding the existing CMR Building in 2030. Because the CMRR-NF and CMR Building locations are relatively close to one another, the minority and nonminority populations living in the potentially affected area surrounding the TA-55 site differ from those surrounding the existing CMR Building at TA-3 by approximately 2 percent. Minority populations projected to live within the 50-mile (80-kilometer) radius constitute approximately 57 percent of the total population in the ROI. This is slightly lower than the projected total minority population for the State of New Mexico of approximately 65 percent. Approximately 73 percent of the total population and 72 percent of the total minority populations in the ROI reside in Sandoval and Santa Fe Counties.

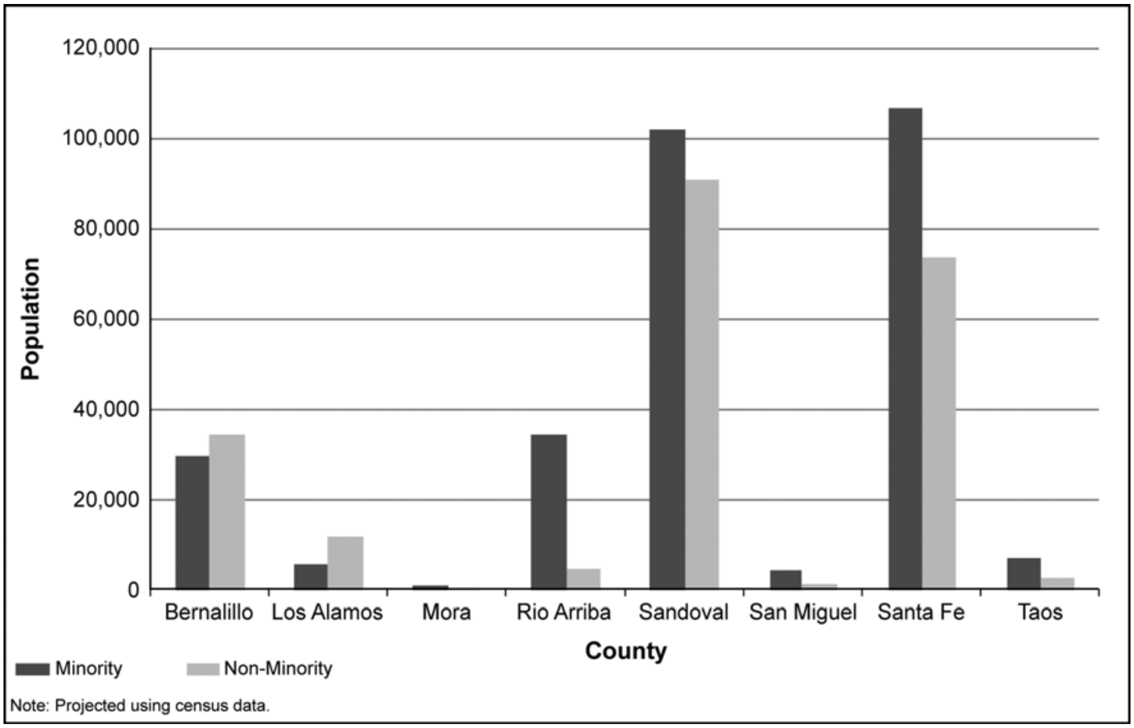

Figure 3–10 Minority and Nonminority Populations by County Projected to Live in the Potentially Affected Area in 2030

Figures 3–11 and **3–12** show cumulative total and minority populations projected to live within the potentially affected area in 2030 as a function of distance from TA-3 and TA-55. Values along the vertical axis show populations residing within a given distance from these technical areas. Moving outward from locations, the cumulative populations increase sharply in the Española, Santa Fe, and Albuquerque areas. Approximately 37 percent of the potentially affected minority population resides in the Santa Fe area.

Approximately 80 percent of the potentially affected minority population is projected to be Hispanic or Latino. Similarly, the Hispanic population is projected to account for approximately 82 percent of the total minority population of the state of New Mexico. The American Indian population is projected to account for approximately 9 percent of the total minority population of the potentially affected area in 2030, much lower than the projected American Indian population for the state of New Mexico of approximately 16 percent. Cumulative minority populations surrounding TA-3 and TA-55 are almost identical as a function of distance from the site.

Figure 3–13 shows the low-income and non-low-income population by county projected to live within the potentially affected area surrounding the existing CMR Building in 2030. As indicated in the figure, the largest potentially affected low-income populations reside in Sandoval and Santa Fe Counties. Approximately 67 percent of the total potentially affected low-income populations reside in these two counties. Low-income persons constituted approximately 12.9 percent of the total potentially affected population.

Figure 3–14 shows the cumulative low-income populations projected to live within the potentially affected area in 2030 as a function of distance from TA-3 and TA-55. The overall shape of these curves is similar to those shown in Figures 3–10 and 3–11, indicating that increases in the cumulative populations occur at the same distances and same rates. Low-income populations surrounding TA-3 and TA-55 are concentrated in the Española, Santa Fe, and Albuquerque areas. Approximately 35 percent of the potentially affected low-income population reside in Santa Fe County.

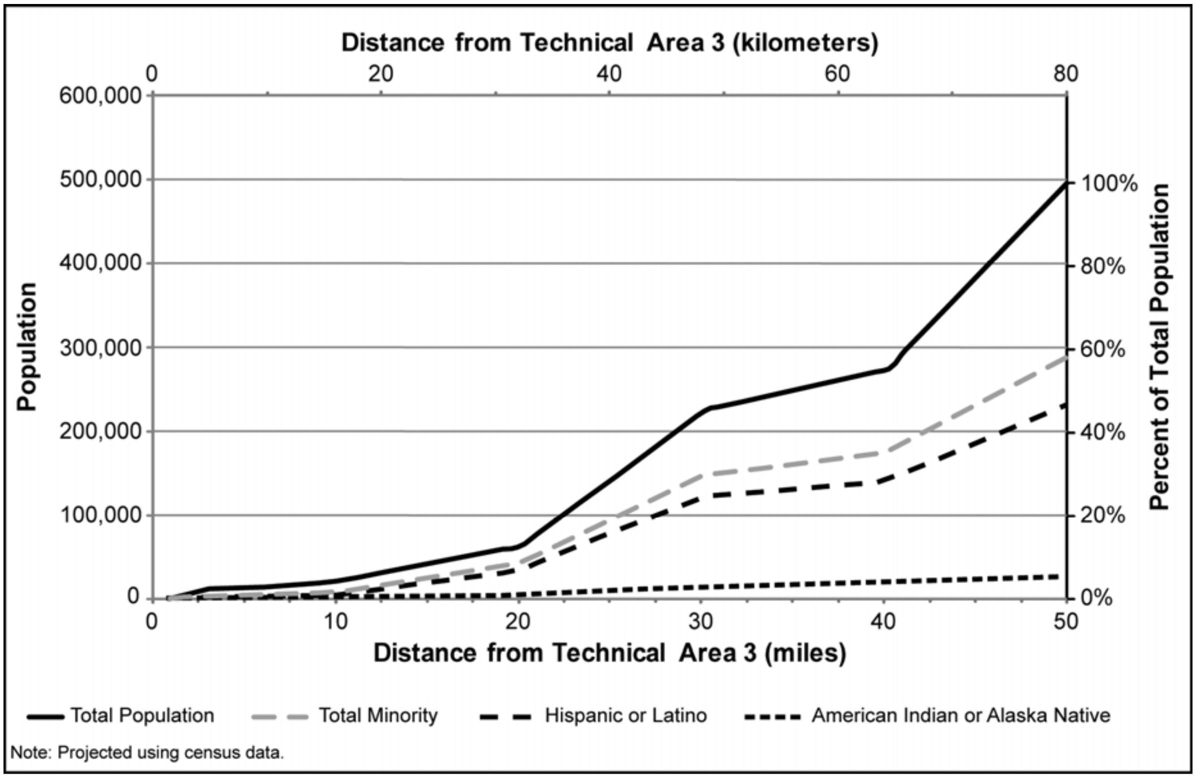

Figure 3–11 Total and Minority Populations as a Function of Distance from Technical Area 3 in 2030

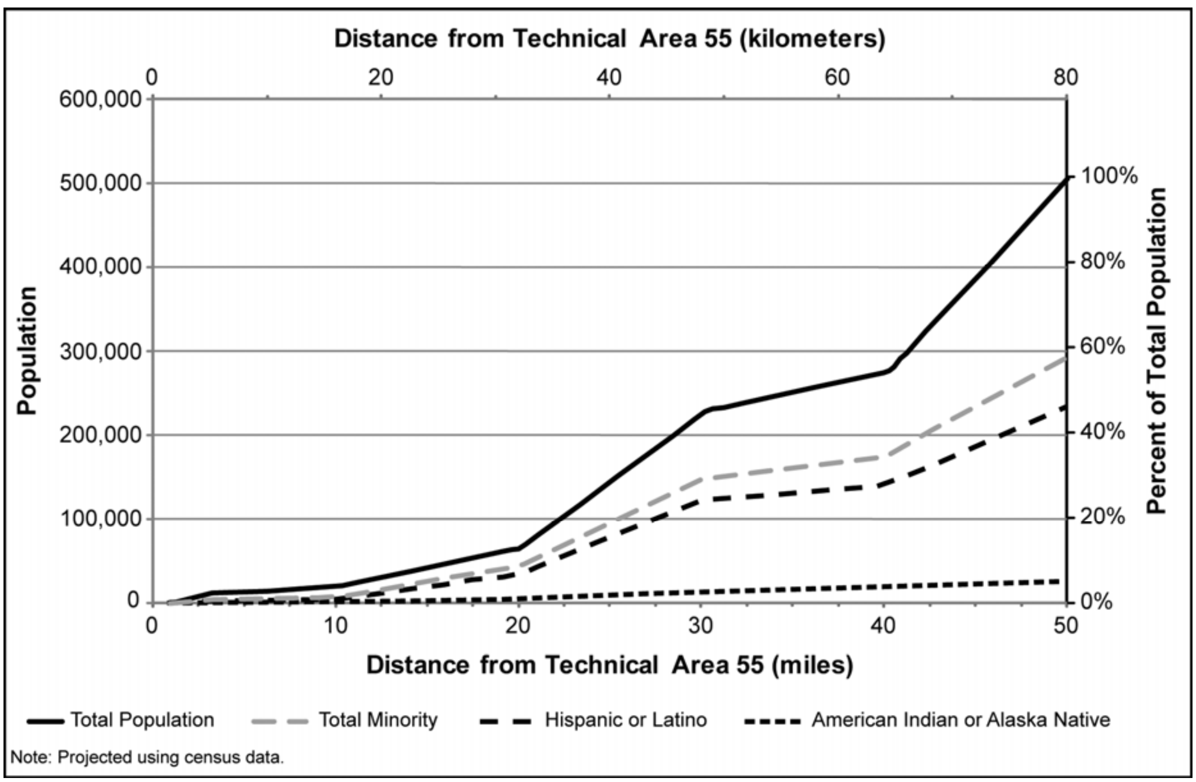

Figure 3–12 Total and Minority Populations as a Function of Distance from Technical Area 55 in 2030

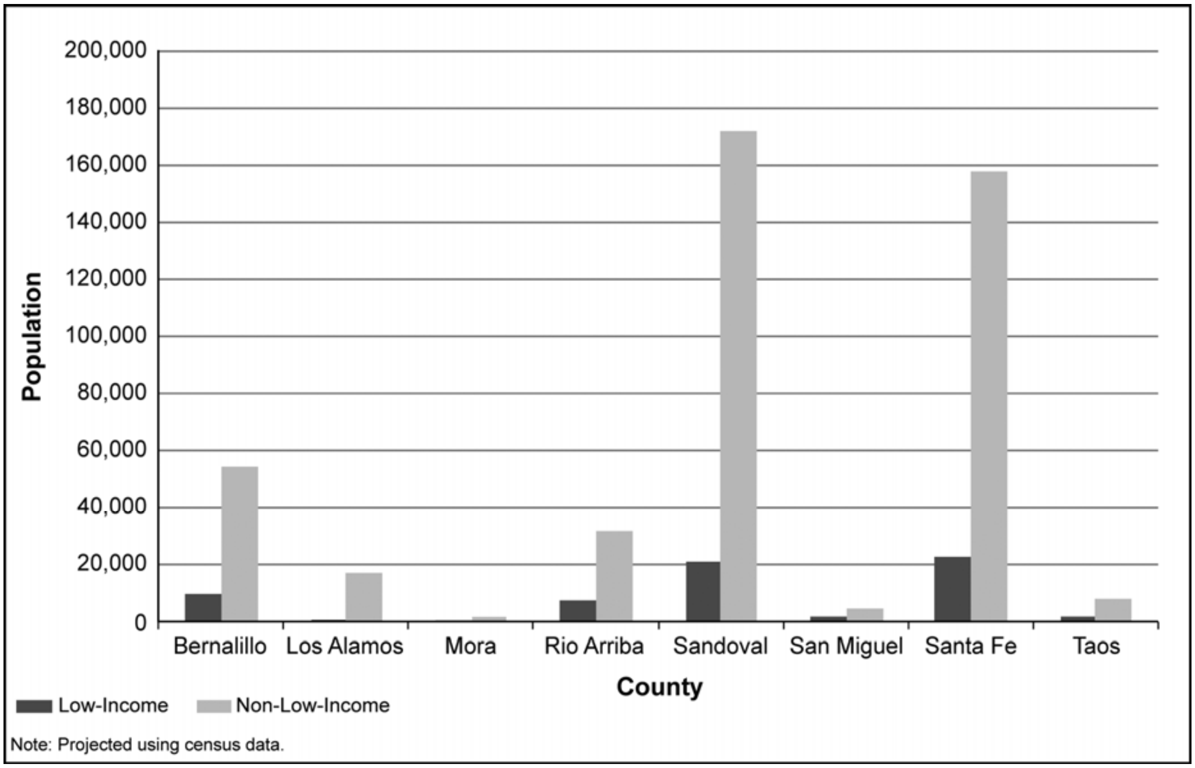

Figure 3–13 Low-Income and Non-Low-Income Populations by County Projected to Live in the Potentially Affected Area in 2030

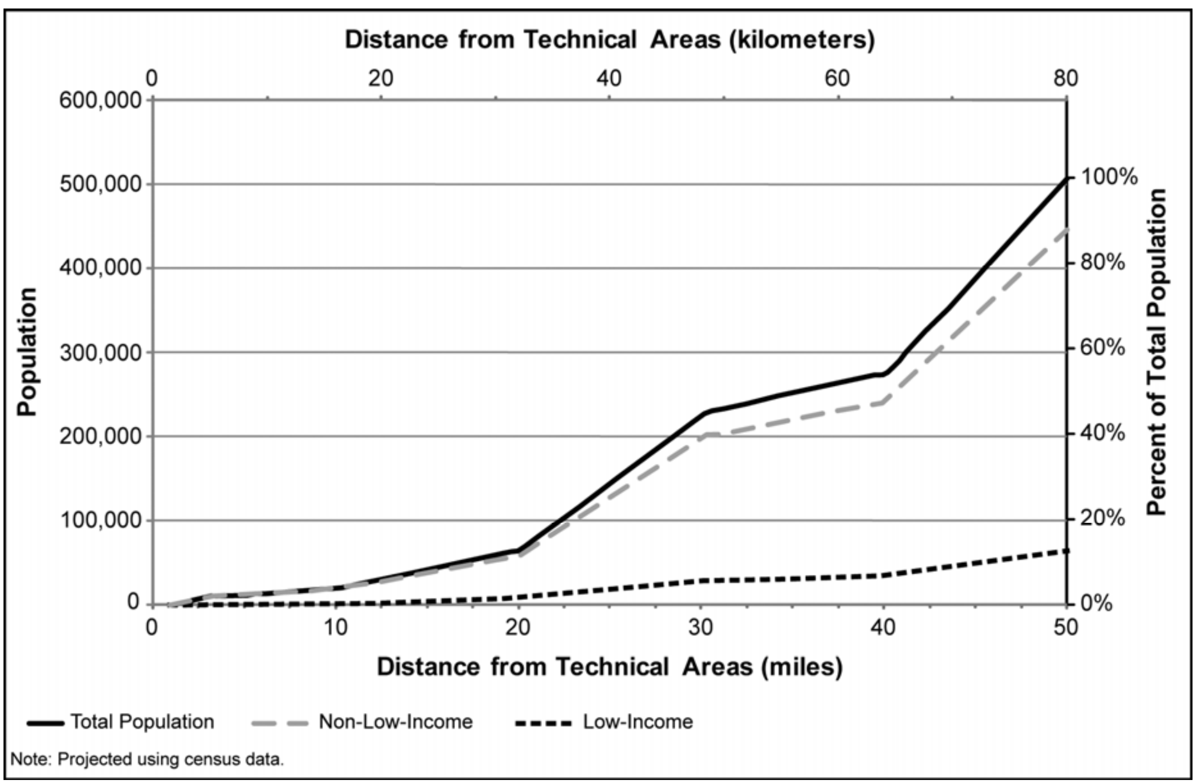

Figure 3–14 Total and Low-Income Populations as a Function of Distance from Technical Areas in 2030

3.11 Human Health

Public and occupational health and safety issues for LANL operations include the determination of potential adverse effects on human health that could result from acute and chronic exposure to ionizing radiation and hazardous chemicals. The following subsections include a discussion of radiation exposure and chemical exposure and the associated human health risks of each.

3.11.1 Radiation Exposure and Risk

Major sources and levels of background radiation exposure to individuals in the vicinity of LANL are shown in **Table 3–16**. Annual background radiation doses to individuals are expected to remain constant over time. Background radiation doses are unrelated to LANL operations.

Normal operational releases of radionuclides to the environment from LANL operations provide another source of radiation exposure to individuals in the vicinity of LANL. Types and quantities of radionuclides released from LANL operations in 2009 are listed in *Environmental Surveillance at Los Alamos During 2009* (LANL 2010b) and are presented in Section 3.4.3.

The annual population dose to the public resulting from these releases is about 0.6 person-rem (LANL 2010b), which corresponds to an average annual individual dose of 0.002 millirem for individuals residing within 50 miles (80 kilometers) of LANL.[7] This dose to the offsite public is primarily the result of airborne releases from LANSCE operations. Collective annual population doses over the last 16 years from releases at LANL have declined from a high of 4 person-rem in 1999 to less than 1 person-rem in 2009. Future collective annual doses are expected to be less than 1 person-rem. No observable health effects are expected from this dose.

Table 3–16 Sources of Radiation Exposure That Affect Individuals in the Vicinity of Los Alamos National Laboratory But Are Unrelated to Site Operations

Source	*Effective Dose Equivalent (millirem per year) [Los Alamos National Laboratory]*
Natural Background Radiation	
External cosmic [a]	50 to 90 [70]
External terrestrial [b]	50 to 150 [100]
Internal terrestrial and global cosmogenic	40
Radon (in homes)	200-300 [270]
Other Background Radiation	
Diagnostic x-rays and nuclear medicine	300
Weapons test fallout	< 1
Consumer and industrial products	10
Total	650 to 890 [790]

< = less than.
[a] Cosmic radiation doses are lower in the lower elevations and higher in the mountains.
[b] Variation in the external terrestrial dose is a function of the variability in the amount of naturally occurring uranium, thorium, and potassium in the soil.
Source: LANL 2010b.

[7] The population dose reported in the annual site environmental report (LANL 2010b) was based on an estimated population of 280,000 people living within 50 miles (80 kilometers) of LANL. Based on the 2010 census, the population is estimated to be about 383,000. Assuming that the distribution of the population remained the same, the dose to 2010 population would be about 0.8 person-rem.

The annual dose from airborne releases to the maximally exposed offsite individual (at East Gate[8]) was calculated to be about 0.6 millirem (LANL 2010b). This dose falls within the radiological limits (individual dose limit of 10 millirem per year from airborne emissions [40 CFR Part 61, Subpart H] and 100 millirem per year from all sources [DOE Order 458.1]) and is much lower than those from background radiation.

Using a risk estimator of 1 latent cancer fatality (LCF) per 1,667 person-rem or rem of dose (or 6×10^{-4} LCFs per person-rem or rem) (DOE 2003a), the estimated probability of this maximally exposed person developing a latent fatal cancer from radiation exposure associated with 1 year of LANL operations is about 1 chance in 3 million (3.6×10^{-7}). According to the same risk estimator, 0.00034 excess LCFs are projected in the population living within 50 miles (80 kilometers) of LANL from 1 year of normal LANL operations. To place this number in perspective, it may be compared with the number of fatal cancers expected in the same population from all causes. The mortality rate associated with cancer for the entire U.S. population is 0.2 percent per year. Based on this mortality rate, the number of fatal cancers to be expected during 2009 from *all causes* in the population of about 280,000 living within 50 miles (80 kilometers) of LANL would be 560, much higher than the 0.00034 LCFs resulting from total LANL operations that was estimated in 2009 (LANL 2010b).[9]

LANL workers receive the same dose as the general public from background radiation, but they also receive an additional dose from working in facilities with nuclear materials. The average dose to the individual worker and the cumulative dose to all workers at LANL from operations in 2009 are presented in **Table 3–17**. These doses fall within the radiological limits established by 10 CFR Part 835. Using a risk estimator of 1 LCF per 1,667 person-rem among workers (6×10^{-4} LCF per person-rem) and a total dose to workers of 115.7 person-rem, the number of estimated LCFs among LANL workers from normal operations in 2009 is 0.070.

In 2009, the average onsite concentrations in air of plutonium-239, gross alpha, and gross beta radiation on the LANL site were measured to be 1×10^{-18} curies per cubic meter, 7×10^{-16} curies per cubic meter, and 1.7×10^{-14} curies per cubic meter, respectively. The concentrations of plutonium-239, gross alpha, and gross beta radiation were about the same as those measured regionally (see Table 3–8). No specific measurements were reported for the technical areas, but the concentrations are expected to be similar to the average site values.

Table 3–17 Radiation Doses to Workers from Normal Los Alamos National Laboratory Operations in 2009 (total effective dose equivalent)

Occupational Personnel	*Onsite Releases and Direct Radiation*	
	Standard	*Actual*
Average radiation worker (millirem)	(a)	83
Total workers (person-rem) [b]	None	115.7

[a] The radiological limit for an individual worker is 5,000 millirem per year (10 CFR Part 835). However, DOE's goal is to maintain radiological exposure as low as reasonably achievable. Therefore, DOE has recommended an administrative control level of 500 millirem per year (DOE 1999b); the site must make reasonable attempts to maintain individual worker doses below this level.

[b] There were 1,392 workers with measurable doses in 2009.

Source: DOE 2010a.

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[8] *The individual at this location would receive the maximum dose from all releases at LANL.*

[9] *For the 2010 population of about 383,000 people, the number of fatal cancers from all causes would be about 770 compared to the increased risk of a latent cancer fatality from LANL operations of 0.00048.*

3.11.2 Chemical Environment

The background chemical environment important to human health consists of the atmosphere, which may contain hazardous chemicals that can be inhaled; drinking water, which may contain hazardous chemicals that can be ingested; and other environmental media with which people may come in contact (such as soil through direct contact or via the food pathway).

Adverse health impacts on the public are minimized through administrative and design controls to decrease hazardous chemical releases to the environment and to achieve compliance with permit requirements. The effectiveness of these controls is verified through the use of monitoring information and inspection of mitigation measures. Health impacts on the public could occur during normal operations at LANL via inhalation of air containing hazardous chemicals released to the atmosphere by LANL operations. Other potential pathways that pose risks to public health include ingestion of contaminated drinking water or direct exposure.

Baseline air emission concentrations for air pollutants and their applicable standards are presented in Section 3.4.2. These concentrations are estimates of the highest existing offsite concentrations and represent the highest concentrations to which members of the public could be exposed. These concentrations are compared with applicable guidelines and regulations.

Chemical exposure pathways to LANL workers during normal operations could include inhaling the workplace atmosphere, drinking LANL potable water, and possible other contact with hazardous materials associated with work assignments. Workers are protected from hazards specific to the workplace through appropriate training, protective equipment, monitoring, and management controls. LANL workers are also protected by adherence to the Occupational Safety and Health Administration and EPA occupational standards that limit atmospheric and drinking water concentrations of potentially hazardous chemicals. Appropriate monitoring, which reflects the frequency and amounts of chemicals used in the operation processes, ensures that these standards are not exceeded. Additionally, DOE requirements ensure that conditions in the workplace are as free as possible from recognized hazards that cause or are likely to cause illness or physical harm. Therefore, worker health conditions at LANL are substantially better than required by standards.

3.11.3 Industrial Safety

Work-related accidents in terms of total recordable cases, injuries, and deaths from normal activities (facility operation, construction, disposition) are evaluated using historical accidents databases for LANL. Two categories of industrial safety impacts are represented: (1) total recordable cases and (2) days away, restricted, and transfer cases. Total recordable cases include work-related death, illness, or injury that results in loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment beyond first aid. A fatal occurrence is a work-related injury or illness that causes the death of the employee.

Table 3–18 summarizes occupational injury and illness rates at LANL over the last 4 years and the average rates evaluated in 2008 *LANL SWEIS* for the years 1999 through 2005. These rates correlate to reportable injuries and illnesses during the year for 200,000 hours worked or roughly 100 worker-years. Analysis of NNSA's injury and illness performance at LANL shows significant improvement over the last 3 years. This has been influenced by a decrease in some types of injuries that have been historically high, such as repetitive trauma and push/pull/lift injuries. The LANL contractor continues to strengthen the interface between the LANL worker organizations with respect to timely reporting of injuries and the completion and analysis of injury investigation reports. To derive learning from injury/illness events, the LANL contractor requires that facility managers engage in a systematic in-depth analysis of the event causes and consider the efficiency of the remaining lines of defense associated with the events they evaluate.

Accident information for activities at facilities across DOE result in rates of 1.6 total recordable cases and 0.7 days away, restricted, or transferred cases, based on occupational injuries or illnesses from 2004 through 2008 (DOE 2011a). These rates are well below industry averages, which in 2006 through 2009 were 4.0 recordable cases and 2.0 days away, restricted, or transferred cases as a result of an occupational injury or illness (BLS 2010a).

There were no work-related fatalities at LANL. The DOE and contractor work-related fatality rate from 2002 to 2009 is about 0.0008 for 100 worker-years or 200,000 labor hours (DOE 2011a).

Table 3–18 Occupational Injury and Illness Rates at Los Alamos National Laboratory

Calendar Year	*2006*	*2007*	*2008*	*2009*	*LANL SWEIS*
Total recordable cases [a]	2.56	2.0	1.83	1.90	2.40
Days away, restricted, transfer [b]	1.15	0.80	0.65	0.73	1.18

[a] Total recordable cases, number per 200,000 hours worked.
[b] Days away, restricted, or transfer, number of cases per 200,000 hours worked.
Source: LANL 2007d, 2009a, 2010a, 2011b.

3.11.4 Health Effects Studies

Numerous epidemiological studies have been conducted in the LANL area. For example, a 1993 study found that the incidence of some cancers was greater than that observed in reference populations, while the incidence of other cancers was lower (Athas and Key 1993). The most notable increase was for thyroid cancer incidence observed in the mid-1980s, with increased incidence rates also observed for melanoma of the skin, prostate cancer, non-Hodgkin's lymphoma, ovarian cancer, and female breast cancer. The related epidemiologic investigation did not identify a specific cause for the high number of thyroid cancers observed in Los Alamos County, but indicated that it was likely the result of several causes (Athas 1996).

Using cancer incidence data for the years 1973 to 1997, a study identified a statistically significant cluster of childhood cancers in Los Alamos County and six counties to the south and west of Los Alamos County (Bernalillo, Cibola, McKinley, Sandoval, San Juan, and Valencia Counties), when all cancers were considered (Zhan 2001). The same study identified a statistically significant cluster of childhood acute lymphoblastic leukemia in a nine-county area south and southwest of Los Alamos County (Bernalillo, Catron, Cibola, Dona Ana, Lincoln, Sierra, Socorro, Torrance, and Valencia Counties). Over the same years, another study identified a statistically significant cluster of female breast cancer within the four-county area of Los Alamos, Sandoval, Santa Fe, and Bernalillo Counties (Zhan 2002).

In 2003, a study compared annual age-adjusted cancer incidence and mortality rates for the years 1970 to 1996 for 24 types of cancer in Los Alamos County, with rates calculated for a New Mexico state reference population (Richards 2003). Cancer incidence rates considered elevated or significantly elevated compared with the New Mexico state reference population included those for the brain, breast, colon/rectum, esophagus, Hodgkin's lymphoma, leukemia, melanoma of the skin, non-Hodgkin's lymphoma, ovary, prostate, testis, and thyroid. Cancer mortality rates considered elevated or significantly elevated compared with the New Mexico state reference population included those for breast, colon/rectum, kidney, liver, melanoma of the skin, non-Hodgkin's lymphoma, ovary, and pancreas. Incidence and/or mortality rates for other analyzed cancers were not considered elevated in Los Alamos County.

The 2008 *LANL SWEIS* presented a summary of cancer incidence and mortality figures for the Los Alamos region as derived from data made available by the National Cancer Institute (through 2003) (DOE 2008a). **Table 3–19** presents a summary of total cancer mortality, incidence of all cancers, and incidence of selected cancer types for the state of New Mexico, as well as Los Alamos, Santa Fe, Sandoval, and Rio Arriba Counties, for the period 2003 through 2007. During that period, the overall cancer incidence (403.6) and death rates (162.2) for the state of New Mexico were somewhat below the national average (464.5 and 183.8, respectively). Total cancer incidence in Los Alamos (433.4), Santa Fe (417.2), and Sandoval (444.7) Counties exceeded the state average, although the rates in all four counties were below the national averages. As reported in the State Cancer Profiles in the National Cancer Institute web site (see Table 3–19), the cancer incidence rates of melanoma of the skin, prostate cancer, and female breast cancer are elevated in Los Alamos County with respect to the state averages. The rate of thyroid cancer also exceeded the state average for the period. Cancers of the colon and rectum occurred at rates below the state averages. Due to the small number of reported cases (3 or fewer) and resulting statistical unreliability of the data, the rates of lung and bronchus cancer, non-Hodgkin's lymphoma, ovarian cancer, brain cancer, leukemia, and stomach cancer in Los Alamos County were not reported by the National Cancer Institute (NCI 2011).

Table 3–19 Five-Year Profile of Cancer Mortality and Incidence in the United States, New Mexico, and Los Alamos Region, 2003 through 2007 [a]

Statistic	*United States* [b]	*New Mexico*	*Los Alamos County*	*Santa Fe County*	*Sandoval County*	*Rio Arriba County*
Average Deaths Per Year	558,564	3,132	24	213	166	66
Annual Death Rate (per 100,000)	183.8 (183.6 - 184.0)	162.2 (159.6 - 164.8)	127.4 (105.1 - 153.2)	148.3 (139.4 - 157.6)	165.3 (154.2 - 177.1)	163.1 (145.8 - 181.8)
Annual Cancer Incidence Rate (per 100,000)						
All sites [c]	464.5 (464.1 - 464.8)	403.6 (399.6 - 407.6)	433.4 (393.5 - 476.4)	417.2 (402.5 - 432.3)	444.7 (426.4 - 463.5)	336.9 (312.2 - 363.1)
Brain and Other Nervous System	5.7 (5.7 - 5.8)	4.3 (3.8 - 5.0)	N/A [d]	7.2 (4.8 - 10.5)	N/A [d]	N/A [d]
Lung and Bronchus	84.9 (84.7 - 85.1)	55.5 (53.3 - 57.8)	N/A [d]	40.3 (33.4 - 48.1)	49.7 (40.7 - 60.0)	28.6 (18.5 - 42.0)
Colon and Rectum	57.0 (56.9 - 57.2)	48.0 (45.9 - 50.1)	37.8 (22.8 - 59.8)	44.9 (37.8 - 53.0)	49.5 (40.6 - 59.6)	61.5 (46.5 - 79.7)
Stomach	4.8 (4.7 - 4.8)	5.2 (4.6 - 5.9)	N/A [d]	4.8 (2.9 - 7.6)	N/A [d]	N/A [d]
Breast Cancer	120.6 (120.4 - 120.9)	108.5 (105.7 - 111.4)	133.5 (104.3 - 169.0)	131.7 (120.8 - 143.4)	131.1 (118.1 - 145.2)	79.6 (63.8 - 98.3)
Leukemia	9.6 (9.6 - 9.7)	10.1 (9.3 - 11.0)	N/A [d]	12.1 (8.8 - 16.2)	10.4 (7.0 - 15.0)	N/A [d]
Melanoma of Skin	23.1 (23.0 - 23.2)	21.1 (19.7 - 22.5)	38.2 (22.5 - 61.0)	23.0 (18.2 - 28.7)	24.9 (18.9 - 32.2)	N/A [d]
Non-Hodgkin's Lymphoma	23.1 (23.0 - 23.3)	18.1 (16.9 - 19.4)	N/A [d]	24.0 (19.0 - 30.0)	14.8 (10.1 - 20.8)	N/A [d]
Ovary	12.8 (12.8 - 12.9)	12.2 (11.3 - 13.2)	N/A [d]	15.5 (11.9 - 19.8)	17.1 (12.5 - 22.8)	N/A [d]
Prostate	153.5 (153.2 - 153.8)	143.3 (139.8 - 146.8)	219.3 (181.0 - 264.0)	169.8 (156.2 - 184.2)	158.4 (142.3 - 175.8)	145.2 (121.8 - 171.8)
Thyroid	10.2 (10.2 - 10.3)	12.2 (11.5 - 12.9)	33.6 (22.1 - 48.7)	13.6 (11.1 - 16.6)	14.0 (11.0 - 17.5)	13.5 (8.9 - 19.6)

N/A = not available.

[a] Age-adjusted incidence rates; the 95 percent confidence intervals are in parentheses.

[b] The U.S. average number of deaths and annual death rate reported by the National Cancer Institute are for the entire 2003 through 2007 rate period. The U.S. annual incidence rates reported by the National Cancer Institute are for the year 2010.

[c] All cancers, all races, both sexes.

[d] Data not available. When the number of reported cases is small (3 or fewer), some data are suppressed in National Cancer Institute reports to ensure confidentiality and stability of rate estimates.

Source: NCI 2011.

In a study entitled *Public Health Assessment, Final, Los Alamos National Laboratory*, the Agency for Toxic Substances and Disease Registry of the U.S. Department of Health and Human Services reported on its review of possible public exposures to radioactive materials and other toxic substances in the environment near LANL (ATSDR 2006). The study also examined the results of the Athas and Key (1993) and Athas (1996) studies and determined that there were no data to link environmental factors, other than naturally occurring ultraviolet light from the sun, with the observed incidence of any cancer in Los Alamos County. The Agency for Toxic Substances and Disease Registry concluded that, "[o]verall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities. In some time periods, some cancers will occur more frequently and others less frequently than seen in reference populations. Often, the elevated rates are not statistically significant."

In 1999, the Centers for Disease Control and Prevention began a dose reconstruction project to estimate the possible exposures of populations from releases of radioactive and chemical materials from LANL since 1943. A final report addressing the first phase of the project – the Los Alamos Historical Document Retrieval and Assessment project – has been published (ChemRisk et al. 2010).

3.11.5 Accident History

Unanticipated incidents have occurred at the CMR Building during the course of its 50-plus years of operation that had the potential for impacts on workers and the public. To provide a perspective on facility hazards, a compendium of major accidents or hazardous situations that have occurred through 2008 was reviewed using historical analyses and CMR Building occurrence reports.

Radiological occurrences categories and the number of incidences are: skin contamination – 107; internal dose received – 12; clothing contamination (personal or personal protective equipment) – 79; area contamination – 73; loss of source or radiological control – 20; high airborne activity in operational area – 11; effluent stack release – 2; radiation exposure – 4; other – 9. The consequences of most of the incidents were minor, and none resulted in fatal worker injuries. Following are examples of the types of incidents that have occurred:

- An incident in Wing 9 involved an uptake of plutonium-238 during work on a heat source in an argon-purged atmosphere. The airborne radioactive material was released through a puncture in a boot around a manipulator in the operating area. Several personnel in the area received intake exposures. Intensive decontamination efforts were required to clean up the wing.

- A radiological incident occurred in Wing 3 in which plutonium-238 heat source material was accidently spilled. As a result, there was widespread building contamination and 15 laboratory employees were contaminated. Radioactive contamination on workers was transferred to two residential houses in Santa Fe that required decontamination.

- Several incidents occurred that resulted in contamination outside of the CMR Building. One incident was the result of contaminated material being sent to the Los Alamos landfill. Other incidents were the result of stack releases in excess of DOE guidelines. There were two releases at the CMR Building involving 116 microcuries of uranium-235 from Wing 4 and 1.24 microcuries of plutonium-239 from Wing 3. In addition, a hot-cell manipulator seal leak and glove tear in Wing 9 resulted in both a stack release of 55 curies of plutonium-238 to the environment and an individual worker exposure of 15 rem in the lungs.

- There have also been incidents of small fires. One fire was a result of the ignition of a container of isopropyl alcohol and potassium hydroxide. The incident occurred either by spontaneous ignition of the bath or the evolution of vapors that were ignited by an external source. A second fire occurred in Wing 5 involving an unattended electric oven that was being used to dry a potentially contaminated mop head. A third fire occurred in Wing 9 as a result of an explosion.

- Over the history of the CMR Building, there have been a number of spills of radioactive materials during operations within ventilated hoods and operations outside of containment boxes. As an example, a spill occurred when a worker working in a ventilated hood was splashed with a radioactive solution spilled inside the hood. Another spill occurred when a worker dropped a glass vial containing 140 micrograms of dried plutonium-238 residue.

In recent years, the frequency of accidents is lower than in earlier years of CMR Building operations. Investigations of these and other occurrences were conducted to determine root causes, implement corrective actions, evaluate trends, and communicate lessons learned. A review of incidents at the CMR Building verifies that accidents occur both during laboratory processes and during activities to operate and maintain the facility.

On June 13, 2007, two workers were exposed above the Occupational Safety and Health Administration permissible time-weighted average limit for silica. Sampling during this period indicated that an overexposure occurred when the two workers were using a jackhammer on concrete. Although the Occupational Safety and Health Administration permissible exposure limit was exceeded, a single overexposure should not result in measurable harm to the workers.

3.11.6 Emergency Preparedness and Security

Each DOE site has established an emergency management program that is activated in the event of an accident. This program has been developed and maintained to ensure adequate response to most accident conditions and to provide response efforts for accidents not specifically considered. The emergency management program includes emergency planning, training, preparedness, and response.

NNSA maintains equipment and procedures to respond to situations where human health or the environment is threatened. These include specialized training and equipment for the local fire department, local hospitals, state public safety organizations, and other government entities that may participate in response actions, as well as specialized assistance teams (DOE Order 151.1C). These programs also provide for notification of local governments whose constituencies may be threatened. Broad ranges of exercises are run to ensure the systems are working properly, from facility-specific exercises to regional responses. In addition, DOE has specified actions to be taken at all DOE sites to implement lessons learned from the emergency response to an accidental explosion at the Hanford Site in Richland, Washington, in May 1997.

Emergency response facilities and equipment, trained staff, and effective interface and integration with offsite emergency response authorities and organizations support NNSA's emergency management system at LANL. LANL personnel maintain the necessary apparatus, equipment, and a state-of-the-art Emergency Operations Center to respond effectively to virtually any type of emergency, not only at LANL, but throughout the local community as well.

The Emergency Operations Center serves as the command center for emergency responders in the event of an emergency and has space and resources to house up to 120 personnel, including representatives from neighboring pueblos, the Federal Bureau of Investigation, the Federal Emergency Management Agency, DOE, U.S. Forest Service, National Park Service, National Guard, New Mexico State Police, Los Alamos County police and firefighters, Emergency Managers, the Red Cross, and others.

NNSA's Emergency Response and Management Program at LANL effectively combines Federal and local emergency response capabilities. A coordinated effort to share emergency information with Los Alamos County is a cornerstone of the Emergency Response and Management Program. LANL emergency response and management staff and Los Alamos County police, fire, emergency medical, and 911 dispatch personnel operate out of the LANL Emergency Operations Center. It is the United States' first Emergency Operating Center that combines Federal and local operations. A computer-aided dispatch system provides a centralized dispatch capability for the Los Alamos police and fire departments. First responders from different agencies can share real-time information in the same Emergency Operations Center, resulting in a more coordinated emergency response. Additional information on the Emergency Response and Management Program is provided in the 2008 *LANL SWEIS* (DOE 2008a).

3.11.7 Los Alamos National Laboratory Security Program

LANL workers maintain special nuclear material inventories, classified matter, and facilities that are essential to nuclear weapons production. These security interests are protected against a range of threats that include adversarial groups, theft or diversion of special nuclear material, sabotage, espionage, and loss or theft of classified matter or government property.

NNSA's physical security protection strategy at LANL is based on a graded and layered approach supported by an armed guard force trained to detect, deter, and neutralize adversary activities and backed up by local, state, and Federal law enforcement agencies. This strategy employs the concept of defensible concentric layers where each layer provides additional controls and protections. The defense-in-depth approach begins in the airspace above LANL, which is restricted to approximately 5,000 feet (1,500 meters) above the ground surface. On-the-ground protection begins at the site perimeter and facility access control points and builds inwardly to facility exteriors and designated interior zones and control points.

Physical security protection also includes barriers, electronic surveillance systems, and intrusion detection systems that form a comprehensive site-wide network of monitored alarms. Various types of barriers are used to delay or channel personnel, or to deny access to classified matter, special nuclear material, and vital areas. Barriers are used to direct the flow of vehicles through designated entry control portals and to deter and prevent penetration by motorized vehicles where vehicular access could significantly enhance the likelihood of a successful malevolent act.

Barriers may be passive, active, or a combination of the two. Barriers may also have an active component designed to dispense an obscuration agent, viscous barrier, or sensory irritant. Tamper-protected surveillance, intrusion detection, and alarm systems designed to detect an adversary action or anomalous behavior inside and outside LANL facilities are paired with assessment systems to evaluate the nature of the adversary action. Random patrols and visual observation are also used to deter and detect intrusions. Penetration-resistant alarmed vaults and vault-type rooms are used to protect classified materials.

Guards are stationed in mobile and fixed posts around LANL 24 hours a day, 365 days a year. They are trained and equipped to respond to alarms and adversary action, in accordance with well-designed and thoroughly tested plans, using specialized equipment and weapons.

3.12 Waste Management and Pollution Prevention

A wide range of waste types are generated through activities at the CMR Building and LANL that are related to research, production, maintenance, construction, decontamination, decommissioning, demolition, and environmental restoration. These waste types include wastewaters (sanitary liquid waste, high-explosives-contaminated liquid waste, and industrial effluent); solid waste, including routine office-type (sanitary solid) waste and construction and demolition debris; and radioactive and chemical wastes. Management of these wastes is addressed in detail in the *CMRR EIS* (DOE 2003b) and the 2008 *LANL SWEIS* (DOE 2008a). Sections 3.12.1 through 3.12.4 of this *CMRR-NF SEIS* summarize information and updates information from these and other sources.

Wastes managed at the CMR Building and LANL are regulated in accordance with a variety of Federal and state regulations, applicable to specific waste types and their radiological and nonradiological content. Requirements for waste management activities are determined and documented by Institutional Requirements. These Institutional Requirements provide details on proper management of all process wastes and contaminated environmental media. The waste management operation tracks waste-generating processes; waste quantities; chemical and physical characteristics; regulatory status; compliance with applicable treatment and disposal standards; and final disposition (DOE 2008a).

Several capabilities have been established at the CMR Building for managing waste within overall LANL capabilities, including analyzing, packaging, storing, and transporting all wastes generated from CMR Building operations. All liquid wastes generated at the CMR Building are determined to meet appropriate waste acceptance criteria before the wastes are sent to designated LANL waste management facilities. Liquid wastes are treated at LANL at the SWWS Plant and RLWTF. Liquid radioactive and inorganic chemical wastes from the CMR Building are piped to RLWTF for processing, while liquid organic chemical wastes (which are low in volume) are collected in small containers in temporary holding areas, packaged, and trucked to TA-50 for disposition. Wastes from processing operations are solidified and transported to TA-54, Area G, or off site for disposal. Solid low-level radioactive waste, mixed low-level radioactive waste, transuranic waste, and chemical waste generated at the CMR Building are packaged there and shipped to on- and offsite facilities for disposition (DOE 2003b, 2008a).

The CMR Building conducts operations in accordance with the LANL waste minimization and pollution prevention program. The preferred method for minimizing waste is source reduction, including materials substitution and process improvement. Recycling and reuse practices are also implemented, along with volume reduction and treatment options. Progress in pollution prevention initiatives at LANL is measured annually against metrics approved by DOE.

In 2004, LANL began development and implementation of an environmental management system to comply with the then-current DOE Order 450.1. DOE Order 450.1 defined an environmental management system as a continuous cycle of planning, implementing, evaluating, and improving processes and actions undertaken to achieve environmental missions and goals. The environmental management system at LANL was third-party-certified to the ISO 14001:2004 standard in April 2006, and recertified in April 2009, by the National Science Foundation's International Strategic Registrations (LANL 2011b).

Research, production, maintenance, and construction activities at LANL, as well as the environmental restoration activities, generate radioactive, chemical, and other wastes. The volumes of all types of waste produced at LANL are projected to be large over the next several years because of the need for site remediation pursuant to the 2005 Consent Order and from decontamination, decommissioning, and demolition (DD&D) of facilities, in addition to routine operations. Actual waste volumes from remediation may be smaller than projected, depending on regulatory decisions and because of the employment of possible waste volume reduction and sorting techniques.

Table 3–20 compares 2009 waste generation rates by waste type for the CMR Building and site-wide LANL (LANL 2010b). Note that routine and nonroutine solid wastes from operations are not tracked on a facility-specific basis, but only on a LANL site-wide basis.

Table 3–20 Annual Waste Generation Rates for the Chemistry and Metallurgy Research Building and Los Alamos National Laboratory for 2009 [a]

Waste Type	*Chemistry and Metallurgy Research Building*	*Los Alamos National Laboratory Site-Wide*
Liquid NPDES discharge (millions of gallons)	0	133.3
Routine solid waste (tons) [b]	(d)	2,630
Nonroutine solid waste (tons) [c]	(d)	3,013
Chemical waste (tons) [e]	0.5057	1,899.2
Low-level radioactive waste (cubic yards)	138.8	4,933.5
Mixed low-level radioactive waste (cubic yards)	0.9	17.59
Transuranic waste (cubic yards)	5.1	48.72
Mixed transuranic waste (cubic yards)	0	98.5

NPDES = National Pollutant Detection and Elimination System.
[a] Waste generation rates reflect the current reduced capacity and limited capabilities of the CMR Building.
[b] Routine solid waste consists mostly of food and food-contaminated waste and cardboard, plastic, glass, Styrofoam® packing material, and similar items.
[c] Nonroutine solid waste is typically derived from construction and demolition projects and consists of materials such as asphalt, concrete, dirt, or brush.
[d] Generation of routine and nonroutine solid waste is not reported on a facility-specific basis.
[e] Chemical waste is not a formal LANL waste category, but per the *LANL SWEIS* (DOE 2008a), is used in this table to denote a broad category of materials, including hazardous wastes, toxic wastes, and special wastes so designated under the New Mexico Solid Waste Regulations.
Note: Values have been converted from original units in the source document using the same number of significant figures. To convert gallons to liters, multiply by 3.7854; tons to metric tons, multiply by 0.90718; cubic yards to cubic meters, multiply by 0.76456.
Source: LANL 2011b.

3.12.1 Wastewater Treatment and Effluent Reduction

LANL has three primary sources of nonradioactive wastewater: sanitary liquid wastes, high-explosives-contaminated liquid wastes, and industrial effluent. Radioactive liquid waste is addressed in Section 3.12.4.2.

3.12.1.1 Sanitary Liquid Waste

The SWWS Plant in TA-46 treats liquid sanitary wastes. In 2009, the plant processed about 85.3 million gallons (323 million liters) of wastewater, all of which was pumped to TA-3 to be either recycled at the TA-3 power plant (as makeup water for the cooling towers), or discharged into Sandia Canyon via permitted Outfall Number 001 (LANL 2011b). The Sanitary Effluent Reclamation Facility treats some liquid effluent for reuse in the cooling towers at the Metropolis Center for Modeling and Simulation (DOE 2008a).

3.12.1.2 Sanitary Sludge

Sanitary sludge from the SWWS Plant is dried for a minimum of 90 days to reduce pathogens and then disposed of as special waste (as determined by the State of New Mexico) at an authorized, permitted landfill. The volume of sanitary sludge generated and disposed of by DOE is reported in the annual site environmental surveillance report (DOE 2008a).

3.12.1.3 High-Explosives-Contaminated Liquid Wastes

The High Explosives Wastewater Treatment Facility, located in TA-16, treats process waters containing high-explosives compounds using three treatment technologies. Sand filtration is used to remove particulate high explosives; activated carbon is used to remove organic compounds and dissolved high explosives; and ion exchange units are used to remove perchlorate and barium. The High Explosives Wastewater Treatment Facility receives some wastewaters by truck from processing facilities located outside TA-16 (DOE 2008a). The CMR Building does not generate high-explosives-contaminated liquid wastes.

Equipment upgrades have significantly reduced the quantities of high-explosives wastewater treated and effluent discharged to NPDES-permitted outfalls. In 2009, high-explosives processing and high-explosives laboratory operations generated approximately 16,000 gallons (61,000 liters) of high-explosives-contaminated water, which were treated at the High Explosive Wastewater Treatment Facility (HEWTF) using an evaporator system that resulted in no liquid discharge during that year (LANL 2011b).

3.12.1.4 Industrial Effluent

Industrial effluent is discharged through NPDES-permitted outfalls across LANL. The number of outfalls has been reduced in recent years with an eventual goal of achieving zero liquid discharge from LANL operations. As of December 31, 2009, LANL had 15 permitted wastewater outfalls (14 industrial and 1 sanitary) regulated under NPDES Permit Number NM0028355. In 2009, however, flow was recorded at only 12 outfalls. In 2009, combined discharges totaled 133.3 million gallons (505 million liters), approximately 25.1 million gallons (95 million liters) less than the 2008 total of 158.4 million gallons (599.4 million liters) (LANL 2011b), and well below the maximum flow of 279.5 million gallons (1,058 million liters) projected for the No Action Alternative in the 2008 *LANL SWEIS* (DOE 2008a). The outfall from the CMR Building (03A-21) recorded no discharge in 2009 (LANL 2011b). The CMR outfall was discontinued as of September 30, 2010, and effluent is now piped to the SWWS Plant in TA-46.

3.12.2 Sanitary Solid Waste

Sanitary solid waste is excess material that is not radioactive or hazardous and can be disposed of in a permitted solid waste landfill. LANL sanitary solid waste was historically disposed of at the Los Alamos County Landfill, which is located within LANL boundaries, but operated by Los Alamos County. Waste volumes delivered to the landfill varied considerably over the last decade, with a peak of more than 14,000 tons (12,700 metric tons) transferred to the landfill in 2000 due to removal of Cerro Grande fire debris. The Los Alamos County Landfill has been replaced by a solid waste transfer station, the Los Alamos County Eco Station, which is located at the landfill site. A landfill closure plan was submitted to NMED in September 2005 (LANL 2011b). Solid waste from the Los Alamos County Eco Station is transported off site for recycle or disposal, typically to the Rio Rancho and Valencia County solid waste facilities for disposal.

Sanitary solid waste can be classified as routine or nonroutine. Routine sanitary waste consists mostly of food and food-contaminated waste and cardboard, plastic, glass, Styrofoam® packing material, and similar items. Nonroutine sanitary waste is typically derived from construction and demolition projects and includes materials such as concrete, asphalt, dirt, or brush that may be separated and sorted by material for recycle or beneficial reuse. Routine and nonroutine sanitary solid wastes may be recycled or disposed of as summarized in **Table 3–21** for 2009 (LANL 2011b). These wastes may be sent to the Los Alamos Eco Station or directly to an offsite facility for recycle or disposal.

Table 3–21 Los Alamos National Laboratory Sanitary Solid Waste Generation for 2009

Disposition	*Routine Waste (tons)*	*Nonroutine Waste (tons)*	*Total (tons)*
Recycled	564	2,255 [a]	2,820
Landfill disposal	2,066	757 [b]	2,824
Total	2,630	3,013	5,644

[a] Brush, dirt, concrete, and asphalt.
[b] Construction and demolition debris, nonhazardous solid waste from TA-54.
Total may not equal the sum of the contributions due to rounding.
Note: Values have been converted from original units in the source document using the same number of significant figures.
To convert tons to metric tons, multiply by 0.9072.
Source: LANL 2011b.

DOE/NNSA has instituted a waste minimization and recycling program at LANL that has reduced the amount of waste disposed of in sanitary landfills. Per capita generation of routine sanitary waste at LANL fell from 584 pounds (265 kilograms) per person per year in 1993 to 359 pounds (163 kilograms) per person per year in 2001 to 344 pounds (156 kilograms) per person per year in 2008, equivalent to a 41 percent decrease in routine waste generation over 16 years. This reduction is the result of waste minimization programs that includes recycle of mixed office paper, cardboard, plastic, and metal and source reduction efforts (LANL 2010a). As shown in Table 3–21, of the routine solid waste that was generated in 2009, about 21 percent was recycled rather than being disposed of.

Nonroutine waste from construction and demolition projects is regulated as a separate category of solid waste under the New Mexico Solid Waste Regulations. This waste may be disposed of in a municipal or construction and demolition debris landfill (NMAC 20.9.1), but is frequently separated by material and recycled or beneficially reused. Recycling programs for concrete, asphalt, dirt, and brush were established at LANL in FY 2001 and, as a result, LANL is recycling more construction waste and decreasing landfill disposal (LANL 2011b). As shown in Table 3–21, of the nonroutine solid waste that was generated at LANL in 2009, about 75 percent was recycled. During construction of RLUOB, over 81 percent of construction-generated waste materials was recycled (LANL 2011a:Data Call Tables, 001; Waste Management, 022).

Construction of new facilities and demolition of old facilities are expected to continue to generate substantial quantities of this type of waste. The annual average generation of 310,000 cubic yards (240,000 cubic meters) of construction and demolition debris has been projected for LANL activities (LANL 2010a). In 2009, construction and demolition projects included those at TA-8, TA-16, TA-21, TA-43, and TA-54 (LANL 2011b). Additional wastes could be generated from environmental restoration activities, depending on regulatory decisions regarding the restoration of several material disposal areas at LANL (DOE 2008a).

3.12.3 Chemical Waste

"Chemical waste" is not a formal LANL waste category, but per the *2008 LANL SWEIS* (DOE 2008a), is used in this *CMRR-NF SEIS* to denote a broad category of materials, including hazardous wastes, toxic wastes, and special wastes. Hazardous and toxic wastes are those wastes defined as such pursuant to the Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act, respectively. Typical hazardous waste streams include solvents, unused chemicals, acids and bases, solids such as barium-containing explosive materials, laboratory trash, and cleanup materials such as rags. Toxic wastes principally include waste materials containing asbestos or polychlorinated biphenyls. Special wastes are designated under the New Mexico Solid Waste Regulations and include industrial waste, infectious waste, and petroleum-contaminated soil (DOE 2008a).

Construction and demolition debris is tracked in *LANL SWEIS* yearbooks as a component of chemical wastes that, in most cases, are sent directly to offsite disposal facilities. Construction and demolition debris consists primarily of asbestos and construction debris from DD&D projects, and may be disposed of in permitted solid waste landfills pursuant to Subtitle D of RCRA (DOE 2008a). This waste typically consists of a mixture of materials that would be difficult to separate and sort for recycle or beneficial reuse.

The 2008 *LANL SWEIS* projected that chemical waste volumes would decline for normal LANL operations but potentially increase for environmental restoration activities. In 2009, chemical waste generation at the CMR Building was 0.5057 tons (0.4588 metric tons) (LANL 2011b), which represents about 4.2 percent of the 12 tons (11 metric tons) of annual chemical waste projected for the continued operation of the CMR Building over the next several years (DOE 2008a).

3.12.4 Radioactive Waste

3.12.4.1 Solid Radioactive Waste Management

Solid radioactive waste consists of low-level radioactive waste, mixed low-level radioactive waste, transuranic waste, and mixed transuranic waste. Waste minimization efforts have reduced waste generation rates for specific waste types as facility processes have been improved and nonhazardous product substitutions implemented (DOE 2008a). In some cases, facility workloads have been less than those projected in the 2008 *LANL SWEIS*, and environmental restoration activities have generated less waste than the estimated bounding levels.

Low-Level Radioactive Waste – Low-level radioactive waste is defined as waste that is radioactive and does not fall within any of the following classifications: high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct materials (uranium and thorium mill tailings). These wastes are generated at LANL when materials, equipment, and water are used in radiological control areas as part of work activities; when these contaminated items are no longer useable, they are removed from the area as low-level radioactive waste. Typical waste streams include laboratory equipment, service and utility equipment, plastic bottles, disposable wipes, plastic sheeting and bags, paper, and electronic equipment (DOE 2008a). Environmental restoration and DD&D activities also generate low-level radioactive waste, primarily contaminated soil and debris.

Low-level radioactive waste generated at LANL may be disposed of on site at Area G in TA-54 (a small amount of certain types of low-level radioactive waste) or shipped off site for disposal at the Nevada National Security Site or a commercial disposal facility (beginning about 2008, most low-level radioactive waste generated by LANL operations has been disposed of off site). In 2009, the CMR Building operating at reduced capacity and with limited capabilities generated 138.8 cubic yards (106.1 cubic meters) of low-level radioactive waste (LANL 2011b), representing about 6 percent of the 2,400 cubic yards (1,800 cubic meters) annually projected for the CMR Building for the next several years of continued operations (DOE 2008a).

Mixed Low-Level Radioactive Waste – Mixed low-level radioactive waste is waste that contains both low-level radioactive waste and hazardous waste as defined by RCRA. Most operational mixed low-level radioactive waste is generated by stockpile stewardship and research and development programs. Typical waste streams include contaminated lead bricks and debris, spent chemical solutions, fluorescent light bulbs, copper solder joints, and used oil. Environmental restoration and DD&D activities also produce some mixed low-level radioactive waste. In 2009, the CMR Building generated 0.9 cubic yards (0.7 cubic meters) of mixed low-level radioactive waste (LANL 2011b), representing about 4 percent of the 25 cubic yards (19 cubic meters) projected for the continued operation of the CMR Building over the next several years (DOE 2008a). Mixed low-level radioactive waste may be sent for treatment to a variety of permitted commercial facilities (located, for example, in Florida, Tennessee, Texas, Washington, and Utah) with subsequent disposal at a commercial facility such as the Energy*Solutions* facility in Utah or at the Nevada National Security Site in Nevada.

Transuranic and Mixed Transuranic Waste – Transuranic waste is waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes having half-lives greater than 20 years per gram of waste. This type of waste contains radioactive isotopes such as plutonium, neptunium, americium, and curium. Specific categories are excluded from the definition of transuranic waste: (1) high-level radioactive waste; (2) waste that DOE has determined, and EPA has concurred, does not need the same degree of isolation as most transuranic waste; and (3) waste that the U.S. Nuclear Regulatory Commission has approved, on a case-by-case basis, for disposal at a low-level radioactive waste facility (DOE 2008a). Mixed transuranic waste is transuranic waste that also contains hazardous constituents regulated under RCRA.

Transuranic and mixed transuranic wastes may be generated during research, development, and stockpile manufacturing and management activities. Waste forms include contaminated scrap and residues, plastics, lead gloves, glass, and personnel protective equipment. Transuranic and mixed transuranic wastes may also be generated through environmental restoration, legacy waste retrieval, offsite source recovery, and DD&D activities. Transuranic and mixed transuranic wastes are characterized and certified prior to shipment to the Waste Isolation Pilot Plant (DOE 2008a).

In 2009, the CMR Building operating at reduced capacity and with limited capabilities generated 5.1 cubic yards (3.9 cubic meters) of combined transuranic and mixed transuranic waste (LANL 2011b), representing about 9 percent of the 55 cubic yards (42 cubic meters) of combined transuranic waste annually projected for the continued operation of the CMR Building in the 2008 *LANL SWEIS* (DOE 2008a).

3.12.4.2 Liquid Radioactive Waste

The principal facility for treating radioactive liquid waste at LANL is RLWTF, located in TA-50. RLWTF consists of the treatment facility, support buildings, and liquid and chemical storage tanks and receives liquid waste from various sites across LANL. Several upgrades to RLWTF have been implemented in recent years to upgrade the tank farm, install new ultrafiltration and reverse osmosis equipment, and install new nitrate reduction equipment. RLWTF Outfall Number 051 discharges into Mortandad Canyon. In 2009, discharge volumes were 1.1 million gallons (4.2 million liters) (LANL 2011b), which is about a quarter of the annual discharge volume of 4 million gallons (15 million liters) projected for RLWTF for the next several years of LANL operations (DOE 2008a). Source reduction and process improvements both contributed to these reduced volumes. For example, process waters are now used instead of tap water for the dissolution of chemicals needed in the treatment process and for filter backwash operations (LANL 2011b). RLWTF is slated for replacement with a new facility in accordance with the 2008 *LANL SWEIS* ROD; this new facility is being planned with an evaporation unit to eliminate liquid discharge into the environment.

3.13 Transportation

Transportation infrastructure includes the public roadway network, public transportation systems, airports, railroads, and pedestrian/bicycle facilities on and in the immediate vicinity of LANL. Motor vehicles are the primary means of transportation in Los Alamos County and to LANL.

Regional transportation routes to LANL include: from Albuquerque and Santa Fe, Interstate 25 to U.S. Routes 84/285 to SR-502; from Española, SR-30 to SR-502; and from Jemez Springs and communities to the west of LANL, SR-4. Only two major roads (SR-502 and SR-4) access Los Alamos County. To the west of LANL, SR-501 (also known as West Jemez Road) connects SR-502 and SR-4 via Diamond Drive. SR-501 and SR-502 generally bound the site to the west and north. To the south, LANL is bounded by SR-4, which is a two-lane roadway. SR-501 is also a two-lane roadway that is a DOE-owned roadway internal to LANL, although it has a State Road numerical designation. SR-4 connects to SR-502 to the north and east of LANL. SR-502 is a two- to six-lane roadway to the north of the site that becomes a multi-lane divided freeway to the east of the intersection with SR-4. Los Alamos County traffic volume on these two segments of highway is primarily associated with LANL activities. The location of arterial public roadways and LANL Vehicle Access Portals (VAPs) are shown in Figure 3–1.

The public road system feeds into an internal LANL road system. The main townsite access is from Diamond Drive. The major roadways of the internal LANL road system are Pajarito Road, East Jemez Road, and West Jemez Road. Pajarito Road is a two-lane, access-controlled roadway, while East Jemez Road and West Jemez Road are two-lane roadways that are not access-controlled, although the infrastructure to facilitate access control is present. About 80 miles (129 kilometers) of paved roads exist at LANL. There is no railroad service connection to the site or Los Alamos County.

A public bus service (Atomic City Transit) operates within Los Alamos County 5 days a week. The nearest commercial bus terminal is located in Española. The nearest commercial rail connection is at Santa Fe, 35 miles (56 kilometers) southwest of LANL. The primary commercial international airport in New Mexico is located in Albuquerque. The Santa Fe Municipal Airport currently has four daily commercial flights, three to Dallas/Fort Worth and one to Los Angeles (Santa Fe 2010). The small Los Alamos County Airport is owned by the Federal Government and is operated and maintained by the county.

Workers access LANL using both public transportation and privately owned vehicles. The New Mexico Park and Ride regional bus service delivers 300 riders per day to the site, and Atomic City Transit also serves LANL. Additionally, car/vanpool programs are operated by the State of New Mexico, private companies, and by individuals. The number of workers using privately owned vehicles and car/van pools is 11,750 (LANL 2011a:Data Call Tables, 001).

TA-55 is located along Pajarito Road, a two-lane roadway connecting to Diamond Drive on the west end and SR-4 on the east end. Pajarito Road has a VAP approximately 0.75 miles (1.2 kilometers) to the west of TA-55 off of Diamond Drive (West VAP). The West VAP has five lanes for incoming traffic and one lane for outgoing traffic. Pajarito Road also has a VAP approximately 5 miles (8 kilometers) east of TA-55 off of SR-4 near the community of White Rock (East VAP). The East VAP has four lanes for incoming traffic and one lane for outgoing traffic. Approximately 70 percent of existing Pajarito Road traffic uses the West VAP. The capacity of a VAP is directly related to the type of identification processing being used and the number of lanes available. The existing capacity of the current gates is provided in **Table 3–22**.

Table 3–22 Vehicle Access Portal Capacity for Vehicles Entering Los Alamos National Laboratory

Identification Processing	*West Vehicle Control Point (vehicles per hour)*	*East Vehicle Control Point (vehicles per hour)*
Identification check	2,100	1,400
Identification check tandem processing	3,000	2,000

Source: SDDCTEA 2006.

LANL has approximately 13,500 site workers, of whom 11,752 use personally owned vehicles and car/van pools to commute to work (LANL 2011a:Data Call Tables, 001). Using the methodology developed by the Institute of Transportation Engineers, traffic generated by 11,750 employees has been estimated to be approximately 20,000 trips per day. A trip is defined as a one-way vehicle movement. T**able 3–23** provides the estimated peak hour traffic at LANL (ITE 2003).

Table 3–23 Expected Peak Hour Traffic at Los Alamos National Laboratory

Time Period	*Peak Hour Trips*	
	Entering	*Exiting*
Weekday A.M.	2,600	400
Weekday P.M.	300	2,700
Saturday	440	50
Sunday	430	40

Approximately 4,600 LANL employees (34 percent) work along Pajarito Road (LANL 2010b). Thus, 34 percent of the trips listed in Table 3–22 are expected to take place along this roadway (see **Table 3–24**). For both LANL as a whole and the Pajarito Road corridor, the expected peak hour traffic would occur during the weekday morning and evening rush hours. Actual traffic counts conducted in 2008 at Diamond Drive and Pajarito Road confirmed a peak hour traffic volume of approximately 1,000 vehicles per hour in the morning peak hour (the 60-minute period with the highest traffic volume between 7 and 9 A.M.) and 950 vehicles per hour in the afternoon peak hour (the 60-minute period with the highest traffic volume between 3:30 and 7 P.M.) (Wilson 2010).

The existing VAPs have adequate capacity for the existing traffic.

Table 3–24 Expected Peak Hour Traffic on Pajarito Road

Time Period	*Peak Hour Trips*	
	Entering	*Exiting*
Weekday A.M.	880	140
Weekday P.M.	100	920
Saturday	150	17
Sunday	150	14

The ability of roadways to function is measured in terms of level of service (LOS), which is determined based on the peak hour traffic. LOS is a measure of the operational characteristics of a roadway. In general, it reflects the amount of congestion and ease of use of a roadway segment by individual drivers. Significant impacts on traffic LOS are generally considered to occur when the LOS on the studied roadway segment falls below the acceptable LOS for that roadway.

Arterial roadways primarily serve through-traffic and secondarily provide access to adjoining properties. Collector roadways primarily serve to provide access to adjoining properties and are not intended to serve through-traffic. Rural areas are areas with widely scattered development and a low density of housing and employment. Urban areas are typified by high-density development or large concentrations of population. Rural arterials are roadways primarily serving through-traffic in rural areas. Urban arterials are roadways primarily serving through-traffic in urban areas. All roadways primarily serving through-traffic in an incorporated area are considered urban arterials.

The desired LOS for roadways depends on the classification of the roadway.

- For rural arterial roadways, LOS C or better is desired.
- For urban arterial roadways, LOS D or better is desired.
- For collector roadways, LOS D or better is desired.

Pajarito Road is a collector roadway within LANL. Diamond Drive and SR-502 are urban arterials within the Los Alamos townsite and rural arterials outside of the developed areas. SR-4 is an urban arterial within the community of White Rock and a rural arterial outside of the developed areas.

Representative existing average annual daily traffic and LOS classifications of the public roadways in the vicinity of LANL are provided in **Table 3–25**.

Table 3–25 Existing Annual Average Daily Traffic and Levels of Service of Roadways in the Vicinity of Los Alamos National Laboratory

Location	*Road Type and Number of Lanes*	*AADT per Year (2009)*	*Percent Trucks*	*Existing LOS*
SR-4 at Los Alamos County Line to SR-501	Minor Arterial/Two Lanes	734	9	A
SR-4 at Bandelier Park Entrance	Minor Arterial/Two Lanes	681	7	A
SR-4 at Junction of Pajarito Road – White Rock	Minor Arterial/Two Lanes	9,302	9	D
SR-4 at Jemez Road	Minor Arterial/Two Lanes	9,358	12	D
SR-501 at Junction of SR-4 and Diamond Drive	Minor Arterial/Two Lanes	11,848	11	D
SR-501 at Junction of Diamond Drive	Primary Arterial/Four Lanes	21,211	8	C
SR-501 at SR-502	Primary Arterial/Four Lanes – Divided	17,807	8	C
SR-502 at Oppenheimer Street	Primary Arterial/Four Lanes – Divided	12,817	6	C
SR-502 at Los Alamos/Santa Fe County Line	Primary Arterial/Four Lanes	12,256	9	A

AADT = annual average daily traffic; LOS = Level of Service; SR = New Mexico State Route.
Source: Valencia 2010.

Traffic on arterial roadway segments is generally described by assigning LOS categories, as defined below:

- **LOS A** describes the highest quality of traffic service, with motorists able to travel at their desired speed. Most drivers find operating a vehicle on a LOS A roadway to be stress free.
- **LOS B** describes a condition where the drivers have some restrictions on their speed of travel. Most drivers find operating a vehicle on a LOS B roadway slightly stressful.
- **LOS C** describes a condition of stable traffic flow that has significant restrictions on the ability of motorists to travel at their desired speed. Most drivers find operating a vehicle on a LOS C roadway somewhat stressful.
- **LOS D** describes unstable traffic flow. Drivers are restricted in slow-moving platoons and disruptions in the traffic flow can cause significant congestion. There is little or no opportunity to pass slower-moving traffic. Most drivers find operating a vehicle on a LOS D roadway stressful.

- **LOS E** represents the highest volume of traffic that can move on the roadway without a complete shutdown. Most drivers find operating a vehicle on a LOS E roadway very stressful.
- **LOS F** represents heavily congested flow, with traffic demand exceeding capacity. Traffic flows are slow and discontinuous. Most drivers find operating a vehicle on a LOS F roadway extremely stressful.

A review of information contained in the *Pajarito Road Closure Study* indicates that the LOS of Pajarito Road is LOS C or better for all intersection legs except for Pajarito Road and Diamond Drive in the A.M. peak hour, which has an unacceptable LOS of E (Wilson 2010). Traffic count information provided for each intersection in the *Pajarito Road Closure Study* has been used to estimate the current LOS for road segments between each intersection (**Table 3–26**). All segments were found to be LOS C or D for both the A.M. and P.M. peak hours.

Table 3–26 Estimated 2011 Existing Conditions Los Pajarito Road

Pajarito Road Segment	*2008 A.M. Peak Hour Vehicles per Hour per Year*	*2008 A.M. Peak Hour Vehicles per Hour per Year*	*2011 A.M. Level of Service*	*2011 P.M. Level of Service*
Diamond Drive to TA-48/64	770	694	C	C
TA-48/64 to Pecos Drive	699	692	C	C
Pecos Drive to Lubbock	807	807	D	D
Lubbock to SR-4	794	770	D	C

SR = New Mexico State Route; TA = technical area.

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

4 ENVIRONMENTAL CONSEQUENCES

Chapter 4 describes the environmental consequences of the alternatives to replace the Chemistry and Metallurgy Research (CMR) Building at Los Alamos National Laboratory. The impact on each resource area is evaluated for the three proposed alternatives: the No Action Alternative (2004 Chemistry and Metallurgy Research Building Replacement Nuclear Facility [CMRR-NF]); the Modified CMRR-NF Alternative; and the Continued Use of CMR Building Alternative. In addition, the analysis evaluates the impacts of two options under the Modified CMRR-NF Alternative: the Deep Excavation Option and the Shallow Excavation Option. Chapter 4 also describes the cumulative impacts of these alternatives when combined with other past, present, and future actions that could affect the region; mitigation measures; and resource commitments.

4.1 Introduction

The environmental impacts analysis evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area. The methodologies used to prepare the assessments for the following resource areas are discussed in Appendix B of this supplemental environmental impact statement (SEIS): land use and visual resources; site infrastructure; air quality and noise, including greenhouse gas emissions; geology and soils; surface-water and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health; environmental justice; waste management and pollution prevention; and transportation and traffic. With the exception of the Continued Use of Chemistry and Metallurgy Research (CMR) Building Alternative, all alternatives would involve a significant amount of construction activity. All construction would take place on land already owned by the Federal Government and administered by the U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) and, for the most part, on land that has already been disturbed by other DOE activities. This *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* addresses the potential effects associated with land disturbance that construction and operation activities would have on air and water resources, as well as the effects on ecological, cultural, and paleontological resources and on socioeconomic conditions within the environment influenced by DOE's potential actions at Los Alamos National Laboratory (LANL). The potential effects on the health and safety of workers, the public, and the environment from postulated accident conditions are analyzed. In addition, this SEIS addresses the impacts of transportation of materials both on site and off site, as well as the impacts of construction-related traffic on the roads in and around LANL.

Activities expected to occur during normal operations under the alternatives would not be characterized by any significant release of effluent, radiological or nonradiological, hazardous or nonhazardous. Therefore, the effects on the health and safety of workers, the public, and the environment from normal facility operations are presented in detail in deference to public interest rather than as an indication of their significance. This is also true of the assessments presented for environmental justice and waste generation.

Chapter 4 is organized by environmental resource areas under each alternative. These sections include discussions of potential impacts on all environmental resources due to construction (except for the Continued Use of CMR Building Alternative) and operations for the proposed alternatives at LANL. Section 4.2 discusses the environmental consequences of the No Action Alternative, building and operating the 2004 Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) at Technical Area 55 (TA-55), in accordance with the preferred alternative described in the 2003 *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building*

Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS) and selected in the 2004 Record of Decision (ROD).

Section 4.3 discusses the environmental consequences of the Modified CMRR-NF Alternative under both the Deep Excavation and Shallow Excavation Options. Section 4.4 discusses the environmental consequences of the Continued Use of CMR Building Alternative.

Other sections of this chapter present additional information as follows:

- *Section 4.5, Facility Disposition:* This section discusses disposition of the existing CMR Building and the CMRR-NF.
- *Section 4.6, Cumulative Impacts:* This section discusses cumulative impacts at LANL and the surrounding region, as appropriate.
- *Section 4.7, Mitigation:* This section discusses mitigation measures that could reduce, minimize, or eliminate unavoidable environmental impacts.
- *Section 4.8, Resource Commitments:* This section discusses the resource commitments required for the proposed action, including unavoidable, adverse impacts; the relationship between short-term uses of the environment and maintenance and enhancement of long-term productivity; and irreversible or irretrievable commitments of resources.

4.2 Environmental Impacts of the No Action Alternative

4.2.1 No Action Alternative

This section discusses the potential environmental impacts associated with the No Action Alternative. Under the No Action Alternative, NNSA would have constructed and operated a new CMRR-NF at TA-55, adjacent to the Radiological Laboratory/Utility/Office Building (RLUOB), as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD. The 2004 CMRR-NF would have been linked to RLUOB by a tunnel and to the TA-55 Plutonium Facility by another tunnel. Based on information learned since 2004, the 2004 CMRR-NF would not meet the standards for a Performance Category 3[1] (PC-3) structure as required to safely conduct the full suite of NNSA analytical chemistry and materials characterization mission work. Therefore, the 2004 CMRR-NF would not be constructed. Chapter 2, Section 2.6.1, provides a description of the No Action Alternative.

Because the 2004 CMRR-NF would not be constructed, the potential impacts of constructing and operating the 2004 CMRR-NF have not been fully re-evaluated in this *CMRR-NF SEIS*. Instead, with the exceptions discussed below, the potential impacts as presented in the 2003 *CMRR EIS* for the alternative selected in the 2004 ROD are presented for comparison to the impacts of the action alternatives. Many of the analyses in the 2003 *CMRR EIS* did not distinguish between the potential impacts of the CMRR-NF and RLUOB; therefore, the impacts of constructing and operating both buildings are included in this section.

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[1] *Each structure, system, and component in a DOE facility is assigned to one of five performance categories depending upon its safety importance. Performance Category 3 (PC-3) structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted.*

Analyses have been updated in three areas. A comprehensive update to the LANL seismic hazard analysis was completed in June 2007 (LANL 2007a), after completion of the 2003 *CMRR EIS*. The updated report used more-recent field study data, most notably from the proposed CMRR-NF site, to update the seismic characterization of LANL, including the probabilistic seismic hazard and horizontal and vertical ground accelerations that would constitute what is considered a design-basis earthquake for the proposed CMRR-NF site. The seismic hazard analysis was updated again in 2009 (LANL 2009b). Based on the updated probabilistic seismic hazard analysis, it was concluded that a design-basis earthquake with a return interval of about 2,500 years would have an estimated peak horizontal ground acceleration of 0.47 *g* [gravitational acceleration] and a peak vertical ground acceleration of 0.51 *g*. At the time the *CMRR EIS* was prepared, the peak horizontal ground acceleration was about 0.31 *g* and the peak vertical ground acceleration was about 0.27 *g* for a design-basis earthquake.[2] As a result of this updated understanding of the seismic hazard, it was concluded that the 2004 CMRR-NF design, as originally conceived, would not survive the updated design-basis earthquake. Therefore, the accident analysis of the 2004 CMRR-NF was updated in this *CMRR-NF SEIS* to reflect the potential consequences and risks associated with such an earthquake. Additionally, analyses of greenhouse gas emissions and the potential impacts of construction transportation on traffic, both of which were not included in the 2003 *CMRR EIS*, have been added to the No Action Alternative analysis.

4.2.2 Land Use and Visual Resources

4.2.2.1 Land Use

Construction and Operations Impacts—Under the No Action Alternative, a total of 26.75 acres (10.8 hectares) in TA-48, TA-50, and TA-55 would be disturbed during construction of the Chemistry and Metallurgy Research Building Replacement (CMRR) Facility (that is, the CMRR-NF and RLUOB). A total of 13.75 acres (5.6 hectares), consisting of land used for buildings (2004 CMRR-NF and RLUOB) and parking lots, would be permanently disturbed. The remaining 13 acres (5.26 hectares) would consist of a construction laydown area (2 acres [0.8 hectares]), an area for a concrete batch plant (5 acres [2 hectares]), and land affected by a road realignment (6 acres [2.4 hectares]). Potential development sites at TA-48 and TA-55 include some areas that have already been disturbed, as well as others that are currently covered with native vegetation, including some mature trees that would have to be cleared prior to construction. Construction and operation of the CMRR Facility at TA-55 would be consistent with the designation of the area for Research and Development and Nuclear Materials Research and Development.

4.2.2.2 Visual Resources

Construction and Operations Impacts—Impacts on visual resources resulting from the construction of the 2004 CMRR-NF at TA-55 under the No Action Alternative would be temporary in nature and could include increased levels of dust and human activity. Once completed, the 2004 CMRR-NF would be one story above ground, and its general appearance would be consistent with current development at LANL. The facility would be readily visible from Pajarito Road and from the upper reaches of the Pajarito Plateau rim. Although the 2004 CMRR-NF would add to the overall development at TA-55, it would not alter the industrial nature of the area. Thus, the current Visual Resource Contrast Class IV rating for TA-55 would not change.

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[2] *There are many input parameters used in determining the seismic hazard for a site. However, when designing a structure, it is the ground motion, defined in terms of peak horizontal and vertical ground acceleration, that is key to determining the loads that the structure must resist. The return period for the obsolete peak horizontal and vertical ground accelerations of 0.31 and 0.27, respectively, was 2,000 years; the return interval for the current design-basis earthquake with peak horizontal and vertical ground accelerations of 0.47 g and 0.51 g, respectively, is 2,500 years.*

4.2.3 Site Infrastructure

Construction Impacts—Projected annual demands on key site infrastructure resources associated with construction under the No Action Alternative are presented in **Table 4–1**. Existing LANL infrastructure would easily be capable of supporting the construction requirements for the CMRR Facility proposed under this alternative without exceeding site capacities. Although gasoline and diesel fuel would be required to operate construction vehicles, generators, and other construction equipment, fuel would be procured from offsite sources and, therefore, would not be a limited resource. Construction impacts on the local transportation network would be minimal.

Table 4–1 No Action Alternative — Annual Site Infrastructure Requirements for 2004 CMRR-NF and RLUOB Construction

Resource	*Available Site Capacity* [a]	*Total Requirement* [b]	*Percentage of Available Site Capacity*
Electricity			
Energy (megawatt-hours per year)	513,000	63	0.01
Peak load demand (megawatts)	16	0.3	1.9
Fuel			
Natural gas (million cubic feet per year)	5,860	0	0
Water (million gallons per year)	130	0.75	0.6

CMRR-NF= Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Capacity minus the current site requirements, a calculation based on the data provided in Chapter 3, Table 3–3, of this *CMRR-NF SEIS*.

[b] Total estimated infrastructure requirements for the CMRR-NF and RLUOB are presented annually, assuming a 5-year construction period for both facilities.

Note: To convert gallons to liters, multiply by 3.78533; cubic feet to cubic meters by 0.028317.

Source: Table 3–3; DOE 2003b.

Operations Impacts—Resources needed annually to support operations under the No Action Alternative are presented in **Table 4–2**. All of the requirements associated with CMRR Facility operations would be well within the available site capacity.

Table 4–2 No Action Alternative — Annual Site Infrastructure Requirements for 2004 CMRR-NF and RLUOB Operations

Resource	*Available Site Capacity* [a]	*Total Requirement*	*Percentage of Available Site Capacity*
Electricity			
Energy (megawatt-hours per year)	513,000	19,300	3.8
Peak load demand (megawatts)	16	2.6	16
Fuel			
Natural gas (million cubic feet per year)	5,860	Not available	Not available
Water (million gallons per year)	130	10.4	8.0

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Capacity minus the current site requirements, a calculation based on the data provided in Chapter 3, Table 3–3, of this *CMRR-NF SEIS*.

Note: To convert gallons to liters, multiply by 3.78533; cubic feet to cubic meters by 0.028317.

Source: Table 3–3; DOE 2003b.

4.2.4 Air Quality and Noise

NNSA determined that the Clean Air Act "General Conformity Rule" would not apply, and no conformity analysis would be required because LANL is located in an attainment area for all criteria pollutants and ambient air quality standards would not be exceeded (DOE 2003b).

4.2.4.1 Air Quality

Construction Impacts—Construction of a CMRR Facility (2004 CMRR-NF and RLUOB) at TA-55 would result in temporary emissions from construction equipment, trucks, and employee vehicles. Criteria pollutant concentrations were modeled for the construction of the CMRR Facility at TA-55 and compared to the most stringent standards (see **Table 4–3** and Chapter 3, Section 3.4.2). The maximum ground-level concentrations off site or along the perimeter road to which the public has regular access would be below the ambient air quality standards. Concentrations along Pajarito Road adjacent to the construction site would be higher and could exceed the 24-hour ambient standards for nitrogen dioxide, particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM_{10}), and total suspended particulates. However, the public would not be allowed access to this section of road. Actual criteria pollutant concentrations are expected to be less because conservative emission factors and other assumptions, which tend to overestimate the impacts, were used in the modeling of construction activities. The maximum short-term concentrations during construction would occur at the eastern site boundary at points accessible to the public on a regular basis. The maximum annual criteria pollutant concentrations would occur at a receptor located to the north at the Royal Crest Trailer Park.

Table 4–3 No Action Alternative — Nonradiological Air Quality Concentrations at Technical Area 55 Site Boundary – Construction

Criteria Pollutant	*Averaging Time*	*NMAAQS (parts per million)* [a]	*Calculated Concentration (parts per million)* [b]
Carbon monoxide	1 hour	13	0.20
	8 hours	8.7	0.026
Nitrogen dioxide	Annual	0.05	0.00059
Sulfur dioxide	3 hours	0.5 [c]	0.0089
	24 hours	0.1	0.0011
	Annual	0.02	0.000039
PM_{10}	24 hours	150 µg/m³	34 µg/m³
Total suspended particulates	24 hours	150 µg/m³	67 µg/m³
	Annual	60 µg/m³	4.0 µg/m³

µg/m³ = micrograms per cubic meter; NMAAQS = New Mexico Ambient Air Quality Standards; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers.

[a] NMAAQS are more stringent than the Federal standards; thus, emissions are compared to the latest NMAAQS consistent with other air quality analyses in this *CMRR-NF SEIS*. All emissions were converted from micrograms per cubic meter, as shown in Table 4–9 of the *CMRR EIS*, to parts per million using the appropriate corrections for temperature (70 degrees Fahrenheit) and a site elevation of 7,229 feet (2,200 meters), in accordance with New Mexico dispersion modeling guidelines (NMAQB 2010).

[b] The annual concentrations were analyzed at locations to which the public has access: the site boundary and nearby sensitive areas. Short-term concentrations were analyzed at the site boundary and at the fence line of the technical area to which the public has short-term access.

[c] NMAAQS does not have a 3-hour standard; thus, the current Federal standard (from the National Ambient Air Quality Standards [NAAQS]) is used here.

Source: DOE 2003a.

Radiological releases from construction activities are not expected. As described in Chapter 2, Section 2.5, the RLUOB has been constructed and the CMRR-NF site has been excavated down to about 30 feet (9.1 meters) already and no contamination was encountered. Any suspected or known contaminated areas from prior LANL activities would be evaluated to identify procedures for working within those areas and to determine the need to remove site contamination. Contaminated soils would be removed as necessary to protect worker health or the environment before construction was initiated. Any contaminated soil removed would characterized and disposed of appropriately at LANL or an offsite waste management facility.

Operations Impacts—Under the No Action Alternative, criteria and toxic air pollutants would be generated from operation and testing of an emergency generator at TA-55. **Table 4–4** summarizes the concentrations of criteria pollutants from CMRR Facility operations at TA-55. The concentrations are compared to their corresponding ambient air quality standards (see Chapter 3, Section 3.4.2). The maximum ground-level concentrations that would result from CMRR Facility operations at TA-55 would be below the ambient air quality standards. Actual criteria pollutant concentrations are expected to be less because conservative stack parameters were assumed in the modeling of the diesel emergency generator. The maximum annual criteria pollutant concentrations would occur at the Royal Crest Trailer Park. The maximum short-term concentrations would also occur at the Royal Crest Trailer Park north of TA-55 at the LANL site boundary. No major changes in emissions or air pollutant concentrations at LANL would be expected under this alternative.

Approximately 0.00076 curies per year of actinides and 2,645 curies of fission products and hydrogen-3 (tritium) would be released to the environment from relocated CMR Building operations at TA-55 (DOE 2003b). Impacts of radiological air pollutants are discussed in Section 4.2.10.

Table 4–4 No Action Alternative — Nonradiological Air Quality Concentrations at Technical Area 55 Site Boundary – Operations

Criteria Pollutant	*Averaging Time*	*NMAAQS (parts per million)* [a]	*Calculated Concentration (parts per million)* [b]
Carbon monoxide	1 hour	13	0.027
	8 hours	8.7	0.060
Nitrogen dioxide	Annual	0.05	0.000012
Sulfur dioxide	3 hours	0.5 [c]	0.10
	24 hours	0.1	0.014
	Annual	0.02	0.0000055
PM_{10}	24 hours	150 μg/m³	1.4 μg/m³
Total suspended particulates	24 hours	150 μg/m³	2.4 μg/m³
	Annual	60 μg/m³	0.001 μg/m³

μg/m³ = micrograms per cubic meter; NMAAQS = New Mexico Ambient Air Quality Standards; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers.

[a] NMAAQS are more stringent than the Federal standards; thus, emissions are compared to the latest NMAAQS consistent with other air quality analyses in this *CMRR-NF SEIS*. All emissions were converted from micrograms per cubic meter, as shown in Table 4–10 of the *CMRR EIS*, to parts per million using the appropriate corrections for temperature (70 degrees Fahrenheit) and a site elevation of 7,229 feet (2,200 meters), in accordance with New Mexico dispersion modeling guidelines (NMAQB 2010).

[b] The annual concentrations were analyzed at locations to which the public has access: the site boundary and nearby sensitive areas. Short-term concentrations were analyzed at the site boundary and at the fence line of the technical area to which the public has short-term access.

[c] NMAAQS does not have a 3-hour standard; thus, the Federal standard (from the NAAQS) is used here.

Source: DOE 2003a.

4.2.4.2 Greenhouse Gas Emissions

Greenhouse gas emissions were not analyzed in the 2003 *CMRR EIS*. The impacts on greenhouse gas emissions due to construction and operation of the 2004 CMRR-NF under the No Action Alternative are discussed below.

Construction Impacts—Under the No Action Alternative, construction of the 2004 CMRR-NF at TA-55 would result in temporary greenhouse gas emissions from construction equipment, material transport trucks, personnel commutes, and electricity consumption.

Emissions of greenhouse gases from these construction activities, excluding electricity consumption, were estimated to be more than 4,000 tons (3,700 metric tons) carbon-dioxide equivalent per year (see **Table 4–5**). Compared to the 2008 site-wide greenhouse gas baseline emissions, 440,000 tons (400,000 metric tons) of carbon-dioxide equivalent per year (LANL 2011a:Greenhouse Gases, 015)[3], there would be a minimal and temporary increase (about 1 percent) in greenhouse gases from the construction of the 2004 CMRR-NF under the No Action Alternative.

Table 4–5 No Action Alternative — 2004 CMRR-NF Construction Emissions of Greenhouse Gases

Emissions Scope	*Activity*	*Emissions (tons per year)*			
		CO_2	*CH_4 CO_2e*	*N_2O CO_2e*	*Total CO_2e*
Scope 3 [a]	Sitework/grading	1,300	1	10	1,310
	Construction	1,900	3	40	1,940
	Materials transport	100	0	0	100
	Personnel Commutes	850	1	20	871
	Subtotal	4,150	5	70	4,220
Scope 2 [b]	Electricity Use	66	0	0	66
	Total	4,220	5	71	4,290

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; CO_2 = carbon dioxide; CH_4 CO_2e = methane in carbon-dioxide equivalent; N_2O CO_2e = nitrous oxide in carbon-dioxide equivalent; CO_2e = carbon-dioxide equivalent.

[a] Scope 3 sources include indirect emissions of construction equipment not owned or controlled by LANL.

[b] Scope 2 sources include indirect emissions from the generation of purchased electricity, where the emissions actually occur at sources off site and not at sources owned or controlled by LANL.

[c] The electrical requirement estimated in the 2003 *CMRR EIS* was based on preconceptual design information and is now known to be greatly underestimated.

Note: Totals may not equal the sum of the contributions due to rounding. To convert tons to metric tons, multiply by 0.90718.

Direct greenhouse gas emissions at LANL are those described as Scope 1. There are no established thresholds for greenhouse gases, but in draft guidance issued February 18, 2010, the Council on Environmental Quality (CEQ) suggested that proposed actions that are reasonably anticipated to cause direct emissions of 27,600 tons (25,000 metric tons) or more of carbon-dioxide equivalent should be evaluated by quantitative and qualitative assessments. This is not a threshold of significance, but an indicator that a quantitative and qualitative assessment may be meaningful to decisionmakers and the public and would require consideration in National Environmental Policy Act (NEPA) documentation

[3] *The projected LANL site-wide greenhouse gas emissions associated with the electrical usage corresponding to the operations selected in the 2008* Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico *(LANL SWEIS) RODs would be 543,000 tons (493,000 metric tons) per year.*

(see Chapter 3, Section 3.4.4, and Chapter 5, Section 5.4). There would be no direct or Scope 1 greenhouse gas emissions during construction under the No Action Alternative.

Operations Impacts—Operations of the 2004 CMRR-NF and RLUOB would release greenhouse gases into the atmosphere annually as a result of emissions associated with personnel commutes, refrigerants used to cool the building, three emergency backup diesel generators at RLUOB, and electricity consumption (see **Table 4–6**). Since no new hires would be needed, emissions from personnel commutes are already included in the baseline inventory and are not included here. Total greenhouse gases emitted during normal operations of the 2004 CMRR-NF and RLUOB under the No Action Alternative, excluding the offsite emissions from electricity consumption, would be approximately 1,200 tons (1,090 metric tons) of carbon-dioxide equivalent per year. Compared to site-wide greenhouse gas emissions, 440,000 tons (400,000 metric tons) of carbon-dioxide equivalent per year (LANL 2011a:Greenhouse Gases, 015), there would be a minimal increase in greenhouse gases from normal operations of the 2004 CMRR-NF and RLUOB under the No Action Alternative.

Emissions from the generation of purchased electricity occur at offsite power plants that are not owned or controlled by LANL. Greenhouse gas emissions associated with electricity use during the operation of the 2004 CMRR-NF are approximately 12,700 tons (11,500 metric tons) of carbon-dioxide equivalent per year; however, the electrical requirement estimated in the 2003 *CMRR EIS* was based on preconceptual design information and is now known to be greatly underestimated. The total greenhouse gas emissions from the operation of the 2004 CMRR-NF and RLUOB, including electricity use, would be approximately 13,900 tons (12,600 metric tons) of carbon-dioxide equivalent per year.

Table 4–6 No Action Alternative — 2004 CMRR-NF and RLUOB Operations Emissions of Greenhouse Gases

Emissions Scope	*Activity*	*Emissions (tons per year)*				
		CO_2	*CH_4 CO_2e*	*N_2O CO_2e*	*HFC CO_2e*	*Total CO_2e*
Scope 1 [a]	Refrigerants Used	N/A	N/A	N/A	1,100	1,100
	Backup Generator	95	0	0	N/A	95
Subtotal		95	0	0	1,100	1,200
Scope 2 [b]	Electricity Use [c]	12,600	5	55	N/A	12,700
Total		12,700	5	55	1,100	13,900

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; CO_2 = carbon dioxide; CH_4 CO_2e = methane in carbon-dioxide equivalent; N_2O CO_2e = nitrous oxide in carbon-dioxide equivalent; CO_2e = carbon-dioxide equivalent; HFC CO_2e = hydrofluorocarbons in carbon-dioxide equivalent; N/A = not applicable; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Scope 1 sources include emissions of direct stationary sources owned or controlled by LANL.

[b] Scope 2 sources include indirect emissions from the generation of purchased electricity, where the emissions actually occur at sources off site and not owned or controlled by LANL.

[c] The electrical requirement estimated in the 2003 *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* was based on preconceptual design information and is now known to be greatly underestimated.

Note: Totals may not equal the sum of the contributions due to rounding. To convert tons to metric tons, multiply by 0.09718.

Direct greenhouse gas emissions at LANL are those described as Scope 1. There are no established thresholds for greenhouse gases, but in draft guidance issued February 18, 2010, the CEQ suggested that proposed actions that are reasonably anticipated to cause direct emissions of 27,600 tons (25,000 metric tons) or more of carbon-dioxide equivalent should be evaluated by quantitative and qualitative assessments. This is not a threshold of significance, but an indicator that a quantitative and qualitative assessment may be meaningful to decisionmakers and the public and would require consideration in NEPA documentation. The direct (Scope 1) greenhouse gas emissions during operations of the 2004 CMRR-NF under the No Action Alternative are from the occasional use of three emergency backup generators and the refrigerants used for cooling. Together, the Scope 1 emissions during operation of the 2004 CMRR-NF and RLUOB under the No Action Alternative (1,200 tons or 1,100 metric tons of carbon-dioxide equivalent per year) would be below the CEQ suggested level of 27,600 tons (25,000 metric tons) per year set for quantitative and qualitative assessments.

4.2.4.3 Noise

Construction Impacts—Construction of the 2004 CMRR-NF at TA-55 would result in some temporary increase in noise levels near the area from construction equipment and activities. Some disturbance to wildlife near the area could occur as a result of the operation of construction equipment. There would be no change in noise impacts on the public outside of LANL as a result of construction activities, except for a small increase in traffic noise levels from construction employees' vehicles and materials shipment. Noise sources associated with construction at TA-55 are not expected to include loud, impulsive sources such as from blasting.

Operations Impacts—Noise impacts resulting from CMRR Facility operations at TA-55 would be similar to those resulting from existing operations at TA-55. Although there would be a small increase in traffic and equipment noise (such as heating and cooling systems) near the area, there would be little change in noise impacts on wildlife and no change in noise impacts on the public outside of LANL as a result of moving CMR Building activities to TA-55.

4.2.5 Geology and Soils

Construction Impacts—Construction of the CMRR Facility under this alternative would require aggregate and other geologic resources to support construction activities at TA-55, but these resources are abundant within a 500-mile (800-kilometer) radius. Relatively deep subsurface excavation would be required to construct belowground portions of the CMRR Facility. A site survey and foundation study would be conducted as necessary to confirm site geologic characteristics for facility engineering purposes.

Operations Impacts— CMRR Facility operations under this alternative would not impact geologic or soil resources at LANL. The potential impacts on the 2004 CMRR-NF, with few exceptions, were not re-evaluated in this *CMRR-NF SEIS.* The increased seismic hazard has been evaluated and is addressed in Section 4.2.10.2, Facility Accidents, and Appendix C, Section C.4.1. Volcanic hazards identified for the LANL vicinity would apply to the 2004 CMRR-NF. These include ash and pumice falls, mudflows and flooding, seismic activity, lava flows, atmospheric effects, and acid rains (see Appendix C, Section C.4.1).

4.2.6 Surface-Water and Groundwater Quality

4.2.6.1 Surface Water

Construction Impacts—There are no natural surface-water drainages in the vicinity of the proposed 2004 CMRR-NF site in TA-55 or Mesita del Buey, and no surface water would be used to support facility construction. It is expected that portable toilets would be used for construction personnel, resulting in no onsite direct discharge of sanitary wastewater and no impact on surface waters. Waste generation and management activities are detailed in Section 4.2.12.

Stormwater runoff from construction areas could potentially impact downstream surface-water quality. Appropriate soil erosion and sediment control measures (such as sediment fences and mulching disturbed areas) and spill prevention practices would be employed during construction to minimize suspended sediment and material transport and potential water quality impacts. TA-55 activities are not expected to affect floodplains; TA-55 is not in an area that is prone to flooding, and the nearest 100-year floodplains are located at a distance of approximately 650 feet (200 meters) in Twomile Canyon, 1,900 feet (580 meters) in Mortandad Canyon, and 3,000 feet (910 meters) in Pajarito Canyon, all at much lower elevations.

Operations Impacts—No impacts on surface-water quality are expected as a result of CMR operations at TA-55 under this alternative. No surface water would be used to support facility activities, and there would be no direct discharge of sanitary or industrial effluent to surface waters. Sanitary wastewater would be generated by facility staff use of lavatory, shower, and break room facilities and from miscellaneous potable and sanitary uses. As planned, this wastewater would be collected by an expanded TA-55 sanitary sewer system and conveyed to appropriate wastewater treatment facilities for ultimate disposal. Radioactive liquid waste would be transported via a radioactive liquid waste pipeline to the existing Radioactive Liquid Waste Treatment Facility (RLWTF). The design and operation of new buildings would incorporate appropriate stormwater management controls to safely collect and convey stormwater from facilities while minimizing washout and soil erosion. Overall, operational impacts on site surface waters and downstream water quality would be expected to be minimal.

4.2.6.2 Groundwater

Construction Impacts—Groundwater would be required to support construction activities at TA-55. The volume of groundwater required for construction would be small compared to site availability and historic usage, and there would be no onsite discharge of wastewater to the surface or subsurface. No impact on groundwater availability or quality is anticipated from construction activities in TA-55.

Operations Impacts—Relocated CMR operations and activities at TA-55 under the No Action Alternative would use groundwater primarily to meet the potable and sanitary needs of facility support personnel, as well as for miscellaneous building mechanical uses. It is estimated that new building operations under this alternative would require about 10.4 million gallons (39.4 million liters) per year of groundwater. This demand is a small fraction of total LANL usage and would not exceed site availability. Therefore, no additional impact on regional groundwater availability is anticipated.

Waste generation and management activities are detailed in Section 4.2.12. No sanitary or industrial effluent would be discharged directly to the surface or subsurface. Thus, no operational impacts on groundwater quality are expected.

4.2.7 Ecological Resources

4.2.7.1 Terrestrial Resources

Construction Impacts—Although TA-55 is located within the ponderosa pine forest vegetation zone, few trees exist in developed portions of the area. Where construction would occur on previously disturbed land, there would be little or no impact on terrestrial resources. However, construction would remove some previously undisturbed ponderosa pine forest, resulting in the loss of less-mobile wildlife, such as reptiles and small mammals, and causing more-mobile species, such as birds or large mammals, to be displaced. The success of displaced animals would depend on the carrying capacity[4] of the area into which they move. If the area were at or near its carrying capacity, displaced animals would not likely survive. (Since the issuance of the 2004 ROD associated with the *CMRR EIS*, activities at the proposed TA-55 site

[4] *Carrying capacity in the ecological context is defined as the threshold of stress above which populations and ecosystem functions cannot be sustained. Biological carrying capacity is an equilibrium between the availability of habitat and the number of a given species the habitat can support over time.*

related to RLUOB construction and geological studies have resulted in the elimination of this forestland.) Indirect impacts of construction, such as noise or human disturbance, could also impact wildlife living adjacent to the construction zone. Although temporary, such disturbance would span the construction period and the time required for the habitat to naturally regenerate. The work area would be clearly marked to prevent construction equipment and workers from disturbing adjacent natural habitat.

Operations Impacts—CMRR Facility operations would have a minimal impact on terrestrial resources within or adjacent to TA-55. As wildlife residing in the area has already adjusted to current levels of noise and human activity associated with current TA-55 operations, it is unlikely to be adversely affected by similar activities associated with CMRR Facility operations. Areas not permanently disturbed by the new CMRR Facility (for example, construction laydown areas) would be landscaped. While these areas would provide some habitat for wildlife, it is likely that species composition and density would differ from preconstruction conditions.

4.2.7.2 Wetlands

Construction and Operations Impacts—Although there are three areas of wetlands located within TA-55, none is present in the proposed 2004 CMRR-NF construction area. Thus, there would be no direct impacts on wetlands. Further, indirect impacts on these wetlands due to erosion should not occur because water from the site drains into the Pajarito watershed and not the Mortandad watershed, in which these wetlands are located. In addition, a sediment and erosion control plan would be implemented to control stormwater runoff during construction and operation, thus preventing impacts on wetlands located further down Pajarito Canyon.

4.2.7.3 Aquatic Resources

Construction and Operations Impacts—The only aquatic resources present at TA-55 are small pools associated with wetlands. There would be no impact on these resources from the construction of the 2004 CMRR-NF or operation of the CMRR Facility.

4.2.7.4 Threatened and Endangered Species

Construction Impacts—Areas of environmental interest have been established for the Mexican spotted owl and southwestern willow flycatcher. (Since the issuance of the 2004 ROD associated with the *CMRR EIS*, the bald eagle has been federally delisted due to recovery.) Portions of TA-55 include both core and buffer zones for the Mexican spotted owl, federally classified as a threatened species; however, annual surveys have not identified the spotted owl within these zones. Construction of the 2004 CMRR-NF is not expected to directly affect individuals of this species, but could remove a small portion of the Mexican spotted owl's habitat buffer area; this potential effect on Mexican spotted owl habitat would not likely be adverse. In 2003, the U.S. Fish and Wildlife Service concurred with NNSA's determination that the construction and operation of the CMRR Facility at TA-55 would not be likely to adversely affect either individuals of threatened or endangered species currently listed or their critical habitat at LANL. Core and buffer zones for the southwestern willow flycatcher do not overlap TA-55. No impacts that violate the provisions of the Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act have been identified.

Operations Impacts—CMRR Facility operations at TA-55 would not directly affect any endangered, threatened, or special status species. Noise levels associated with the CMRR Facility would be low, and human disturbance would be similar to that already occurring within TA-55; however, parking activities at the CMRR Facility could be in close proximity to the Mexican spotted owl's potential habitat area and may indirectly affect that potential habitat. In addition, nighttime lighting at the parking lot could indirectly affect prey species activities; therefore it would not be directed toward canyon areas to reduce such impacts. These are not likely to be adverse effects on the Mexican spotted owl's potential habitat areas.

4.2.8 Cultural and Paleontological Resources

Construction and Operations Impacts—Adverse impacts on historic resources at TA-55 resulting from construction and operation of the CMRR Facility are not expected. There are no prehistoric sites located within TA-55. There is one prehistoric site located near the boundary of TA-55 within TA-48 that is eligible for listing in the National Register of Historic Places (NRHP). This site would be avoided during construction of the 2004 CMRR-NF and operation of the CMRR Facility. Some of the 10 historic sites located within TA-55 could be disturbed by the construction of the 2004 CMRR-NF. As appropriate, NNSA would consult with the State Historic Preservation Officer and, if necessary, data and artifact recovery would be conducted. There are no known paleontological resources present at TA-55 at LANL.

The area at TA-55 proposed to house the 2004 CMRR-NF has not been surveyed for traditional cultural properties. If any traditional cultural properties are found during construction, work would stop while appropriate actions are undertaken. Thus, it is expected that there would be no impacts on these resources.

4.2.9 Socioeconomics

Construction Impacts—Construction of new buildings at TA-55 to house CMR activities would require a peak construction employment level of 300 workers. This level of employment would generate about 852 indirect jobs in the region around LANL. The potential total employment increase of 1,152 direct and indirect jobs represents an approximate 1.3 percent increase in the workforce and would occur over the proposed construction period. This small increase would have little or no noticeable impact on the socioeconomic conditions of the region of influence (ROI).

Operations Impacts—CMRR Facility operations would require a workforce of approximately 550 workers. As evaluated in the *CMRR EIS*, this would be an increase of about 340 workers over currently restricted CMR Building operational requirements. Nevertheless, the increase in the number of workers in support of expanded CMRR Facility operations would have little or no noticeable impact on socioeconomic conditions in the LANL ROI. New LANL employees hired to support the CMRR Facility would compose a small fraction of the LANL workforce and an even smaller fraction of the regional workforce.

4.2.10 Human Health

4.2.10.1 Normal Operations

Radiological Impacts

Construction Impacts—No radiological risks would be incurred by members of the public from construction activities. Construction workers would be at a small risk for construction-related accidents and radiological exposures. They could receive doses above natural background radiation levels from exposure to radiation from other past or present activities at the site. However, these workers would be protected through appropriate training, monitoring, and management controls. Their exposure would be limited to ensure that doses are kept as low as is reasonably achievable.

Operations Impacts—Normal operations of the CMRR Facility at TA-55, as evaluated in the 2003 *CMRR EIS*, are not expected to result in an increase in latent cancer fatalities (LCFs) in the general public. Under this alternative, the radiological releases to the atmosphere from the 2004 CMRR-NF and RLUOB at TA-55 would be those shown in **Table 4–7**. The actinide emissions listed in this table are in the form of plutonium, uranium, thorium, and americium isotopes. In estimating the human health impacts, all emissions were considered to be plutonium-239. This is conservative because the human health impacts on a per-curie basis are greater for plutonium-239 than for the other actinides associated with CMR activities.

Table 4–7 No Action Alternative — 2004 CMRR-NF and RLUOB Radiological Emissions During Normal Operations

Nuclide	*Emissions (curies per year)*
Actinides	0.00076
Krypton-85	100
Xenon-131m	45
Xenon-133	1,500
Hydrogen-3 (tritium) [a]	1,000

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] The tritium release is in the form of both tritium oxide (750 curies) and elemental tritium (250 curies). Tritium oxide is more readily absorbed by the body; therefore, the health impact of tritium oxide on a receptor is greater than that for elemental tritium. For this reason, all of the tritium release has been conservatively modeled as if it were tritium oxide.

Source: DOE 2003b.

Doses from radiological emissions under the No Action Alternative are presented as they were reported in the 2003 *CMRR EIS*. They were based on internal dose conversion factors from Federal Guidance Report No. 11 (EPA 1988). For the same exposure, doses would be slightly lower using the more recent Federal Guidance Report No. 13 (EPA 1993b) factors. **Table 4–8** shows the annual collective dose to the population living within a 50-mile (80-kilometer) radius of the CMRR Facility at TA-55 was estimated to be 1.9 person-rem under the No Action Alternative. This population dose increases the annual risk of a single latent fatal cancer in the population by 1×10^{-3}. Another way of stating this is that the likelihood that one fatal cancer would occur in the population as a result of radiological releases associated with this alternative is about 1 chance in 1,000 per year. Statistically, LCFs are not expected to occur in the population as a result of CMRR Facility operations at TA-55.

Table 4–8 No Action Alternative — Annual Radiological Impacts of CMRR-NF and RLUOB Operations on the Public

	Maximally Exposed Individual	*Population Within 50 Miles [a] (80 kilometers)*	*Average Individual Within 50 Miles (80 kilometers)*
Dose	0.33 millirem	1.9 person-rem	0.0063 millirem
Cancer fatality risk [b]	2×10^{-7}	1×10^{-3}	4×10^{-9}
Regulatory dose limit [c]	10 millirem	Not applicable	10 millirem
Dose as a percentage of the regulatory limit	3.3	Not applicable	0.06
Dose from background radiation [d]	450 millirem	139,000 person-rem	450 millirem
Dose as a percentage of background dose	0.07	0.0014	0.0014

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] The population dose for this table was based on the 2000 population estimate of about 309,000 surrounding TA-55, as shown in Table 4–12 of the 2003 *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)*.

[b] Based on a risk estimate of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).

[c] 40 *Code of Federal Regulations* Part 61, Subpart H, establishes an annual limit of 10 millirem via the air pathway to any member of the public from DOE operations. There is no standard for a population dose.

[d] The listed annual individual dose from background radiation is as presented in the 2003 *CMRR EIS*, Table 4–12.

Source: DOE 2003b.

The average annual dose to an individual in the population would be 0.0063 millirem. The corresponding increased risk of an individual developing a fatal cancer from receiving the average dose would be 4×10^{-9}, or about 1 chance in 250 million per year. The maximally exposed individual (MEI) member of the public would receive an estimated annual dose of 0.33 millirem. This dose corresponds to an increased annual risk of developing a fatal cancer of 2×10^{-7}. In other words, the likelihood that the MEI would develop a fatal cancer is about 1 chance in 5 million for each year of operation.

Estimated annual doses to workers involved with CMRR Facility operations (involved workers) under the No Action Alternative are provided in **Table 4–9**. The estimated worker doses are based on historical exposure data for LANL workers (DOE 2003b). Based on the reported data, the average annual dose to a LANL worker who received a measurable dose was 104 millirem. A value of 110 millirem has been used as the estimate of the average annual worker dose per year of operations at the 2004 CMRR-NF and RLUOB at TA-55.

Table 4–9 No Action Alternative — Annual Radiological Impacts of 2004 CMRR-NF and RLUOB Operations on Workers

	Individual Worker	***Worker Population*** [a]
Dose	110 millirem	61 person-rem
Fatal cancer risk [b]	7×10^{-5}	4×10^{-2}
Dose limit [c]	5,000 millirem	Not available
Administrative control level [d]	500 millirem	Not available

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Based on a worker population of 550 for the 2004 CMRR-NF at Technical Area 55. Dose limits and administrative control levels do not exist for worker populations.

[b] Based on a worker risk estimate of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).

[c] 10 CFR 835.202.

[d] DOE 1999b (DOE Standard 1098-99).

Source: DOE 2003b.

This 110-millirem dose is well below the DOE worker dose limit of 5 rem (5,000 millirem) (10 *Code of Federal Regulations* [CFR] Part 835) and is significantly less than the recommended Administrative Control Level of 500 millirem (DOE 1999b). This average annual dose corresponds to an increased risk of a fatal cancer of 6.7×10^{-5} for each year of operations. In other words, the likelihood that a worker would develop a fatal cancer from annual work-related exposure is about 1 chance in 14,000.

Based on a worker population of 550, the estimated annual worker population dose would be 61 person-rem. This would increase the likelihood of a fatal cancer within the worker population by 4×10^{-2} per year. In other words, on an annual basis, there is less than 1 chance in 25 of one fatal cancer developing in the entire worker population (550 workers) as a result of exposures associated with activities under this alternative.

Hazardous Chemical Impacts

No chemical-related health impacts on the public would be associated with this alternative. The laboratory quantities of chemicals that could be released to the atmosphere during normal operations are minor quantities and would be below the screening levels used to determine the need for additional analysis. Workers would be protected from adverse effects from the use of hazardous chemicals by adherence to Occupational Safety and Health Administration (OSHA) and U.S. Environmental Protection Agency (EPA) occupational standards that limit concentrations of potentially hazardous chemicals.

4.2.10.2 Facility Accidents

Radiological Impacts

Radiological impacts of facility accidents, including hazards from volcanic eruptions, at the 2004 CMRR-NF were evaluated in the *CMRR EIS*. Appendix C of the *CMRR EIS* provides the methodology and assumptions used to develop facility accident scenarios and estimate doses to the general public within 50 miles (80 kilometers), to an MEI, and to an onsite worker near the facility.

The safety documents for the CMR Building, the proposed CMRR-NF, and the other plutonium facilities at LANL start with hazard evaluations that systematically consider a wide range of potential hazards and identify the controls needed either to prevent the incident from occurring or to mitigate the potential consequences should an incident occur. Incidents that could result in high consequences or risks are further evaluated to identify controls to reduce the likelihood of the accident occurring and to reduce the potential radiological consequences to the extent practicable.

For facilities like the CMR Building, the proposed CMRR-NF, and the other plutonium facilities at LANL, the general safety strategy requires the following:

- Plutonium materials be contained at all times with multiple layers of confinement that prevent the materials from reaching the environment.
- Energy sources that are large enough to disperse the plutonium and threaten confinement be minimized.

This basic strategy means that operational accidents, including spills, impacts, fires, and operator errors, never have sufficient energy available to threaten the multiple levels of confinement that are always present within a plutonium facility. For plutonium facilities, such as the proposed CMRR-NF, the final layer of confinement is the reinforced concrete structure and the system of barriers and multiple stages of high-efficiency particulate air (HEPA) filters that limit the amount of material that could be released to the environment even in the worst realistic internal events.

The operational events that present the greatest threats to confinement in facilities like the proposed CMRR-NF are large-scale internal fires, which, if they occurred, could present heat and smoke loads that threaten the building's HEPA filter systems. For modern plutonium facilities, the safety strategy is to (1) prevent large internal fires by limiting the energy sources, such as flammable gases and other combustible materials, to the point that a wide-scale, propagating fire is not physically possible, and (2) to defeat smaller internal fires with fire-suppression systems.

Modern plutonium operations, such as the proposed CMRR-NF, are designed and operated such that the estimated frequency of any large fire within the facility would fall into the "extremely unlikely" category and would require multiple violations of safety procedures to introduce sufficient flammable materials into the facility to support such a fire. Any postulated large-scale fire in a modern plutonium facility would be categorized as a "beyond-design-basis" event and is not expected to occur during the life of the facility.

Other events that might threaten the integrity of the building and the ability to confine the materials were also considered, including external events such as aircraft crashes and wildfires and rare natural phenomena-initiated events such as volcanic eruptions. Each of these types of events is considered in the safety analyses that support existing or proposed plutonium facilities and are discussed briefly below (see Appendix C for additional information on these accident scenarios).

Airplane Crash—The potential release of radioactive materials from an unintentional airplane crash into a building was considered in this *CMRR-NF SEIS*. In accordance with DOE Standard 3014, an aircraft impact analysis was performed for the CMRR-NF (LANL 2011h). This analysis concluded that the largest aircraft that would exceed the DOE Standard 3014 evaluation guideline of 10^{-6} (1 chance in 1 million) per year for an aircraft crash into the CMRR-NF was a general aviation aircraft (DOE 2006a, LANL 2011h). Accident impacts from larger aircraft (air carrier and large military) were determined to have a probability of less than 10^{-7} (1 chance in 10 million) per year of crashing into the CMRR-NF and were not considered further in this *CMRR-NF SEIS*. The impacts of a general aviation aircraft crash into the facility have been evaluated and accounted for in the design of the Modified CMRR-NF and are bounded by other accidents addressed in this *CMRR-NF SEIS*.

Wildfires—The potential impacts of wildfires on LANL were evaluated in Appendix D of the 2008 *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (*2008 *LANL SWEIS)* (DOE 2008b). Wildfires are a reasonably expected event in the region; in the 2008 *LANL SWEIS*, the annual frequency of occurrence was estimated to be 0.05 (once every 20 years). The evaluation included in the 2008 *LANL SWEIS* identified the facilities most at risk of radiological release in the event of a wildfire and did not include the CMR Building or any buildings in TA-55. Wildfires such as the Las Conchas fire of June 2011 and Cerro Grande fire of May 2000 are not expected to threaten these facilities or the proposed Modified CMRR-NF because the shells of these facilities are constructed of noncombustible materials and a buffer area free of combustible materials is maintained around them. In the unlikely event that a wildfire would directly affect one of the facilities, the impacts are not expected to exceed those of other fire scenarios evaluated in this *CMRR-NF SEIS*.

Volcanism—A preliminary evaluation of volcanic hazards at LANL was reported in the *Preliminary Volcanic Hazards Evaluation for Los Alamos National Laboratory Facilities and Operations* (LANL 2010i) (see Chapter 3, Section 3.5.5). Based on an evaluation of information on the volcanic history of the region surrounding LANL, the report described the potential volcanic hazards to LANL from future eruptions in the region. The preliminary calculation of the recurrence rate for silicic eruptions is about 1×10^{-5} per year in the Valles Caldera study region. Similarly, the preliminary calculation of the recurrence rate for basaltic eruptions along the Rio Grande rift 4 is 2×10^{-5} per year. These recurrence rates were calculated by dividing the number of eruptive events by the active eruption period. The estimates of past recurrences rates are not the same as the probability of future eruptions that might affect a given facility. Although it cannot be ruled out, volcanism in the vicinity of TA-55 within the lifetime of the CMRR-NF (50 to 100 years) is unlikely (LANL 2011a:LANL Site, 030). Ash fall may be sufficient to exceed roof design load limits for the CMR Building or the proposed CMRR-NF. In that event, structural failure could occur. Since the release associated with structural failure resulting from ash fall loads is driven by the same physical phenomena, the material at risk and the release mechanisms should be similar to those for the analyzed seismic events. Thus, conservative damage ratios and respirable release fractions applied to the material released as a result of impact or thermal stress for seismic events are applicable to the volcanic ash fall event. The building leak path factor conservatively assumed for the seismic analysis is expected to be the same as or higher than the leak path factor associated with volcanic ash fall events because the ash would contribute to the tortuousness of the leak path. The frequency of an earthquake that results in wide-scale damage and loss of confinement for the building (on the order of once in 100,000 years), coupled with a widespread seismically initiated fire, is conservatively assumed to be 0.00001 per year for risk calculation purposes. This is expected to be the same order of magnitude as the upper limit for the volcanic events described above.

Based on the review discussed above, four accidents are included in this *CMRR-NF SEIS*, representing a wide range of possible accidents and risks that are expected to envelope the consequences and risks associated with all of the accidents discussed above. The four accident scenarios are common to all three alternatives analyzed in this *CMRR-NF SEIS* and include a facility-wide fire, a seismically induced spill, a seismically induced spill followed by a fire, and a loading dock spill/fire. The seismically induced spill followed by a fire scenario has been changed from that included in the *Draft CMRR-NF SEIS* for the CMRR-NF. In this *Final CMRR-NF SEIS*, this accident assumes that the earthquake initiates a radioactive material spill that is followed shortly thereafter by a fire, instead of both accidents occurring simultaneously. This change in assumptions results in a larger dose to the MEI and noninvolved worker because the radioactive materials associated with the assumed spill are not immediately lofted by the fire, which would lessen doses to persons close to the accident site.

The doses included in the *CMRR EIS* were calculated using MACCS2 [MELCOR Accident Consequence Code Systems], Version 1.12. The accident scenarios in the *CMRR EIS* were reviewed and compared with accidents from more-recent safety analyses for the CMR Building and preliminary analyses for the 2004 CMRR-NF (LANL 2011d).

In this *CMRR-NF SEIS*, doses were estimated using MACCS2, Version 1.13.1. Using the scenarios discussed above, the only other changes in parameters used from those presented in Appendix C of the *CMRR EIS* are a new 2030 projected population distribution within 50 miles (80 kilometers) of the 2004 CMRR-NF (projected to be about 511,000 persons surrounding TA-55) and a revised distance to the nearest offsite individual (0.75 miles [1.2 kilometers]) from the 2004 CMRR-NF. All other assumptions are consistent with those presented in Appendix C of the 2003 *CMRR EIS*. Because of these changes, the calculated consequences and risks presented in this SEIS are different from those estimated in the 2003 *CMRR EIS*.

As indicated in Appendix C of this *CMRR-NF SEIS*, two sets of accident source terms are presented. First, the conservative source terms developed in the safety-basis process at LANL are presented. In general, these conservative source term estimates take little or no credit for the integrity of containers or building confinement under severe accidents and assume a damage ratio of 1, meaning that all material at risk would be subjected to the similar, near worst-case conditions. Furthermore, these safety evaluations assume that all of the material at risk that is made airborne and respirable is released to the environment (leak path factor of 1).

For purposes of this *CMRR-NF SEIS*, a second set of source terms was developed that presents reasonable, but still conservative, estimates of source terms. These source terms take into account a range of responses of facility features and materials containers and typical operating practices at plutonium facilities at LANL and elsewhere. Therefore, for design-basis-type accidents, a damage ratio of 1 normally would not be realistic if the containers, process enclosures, limits on combustibles, and similar types of safety systems functioned during the accident. Similarly, the building containment, including HEPA filters, would be expected to remain functioning, although at perhaps a degraded level, during and after the accident.

Tables 4–10 and **4–11** provide the revised accident consequences and risks, respectively. These tables provide accident consequences and risks to the offsite MEI, a member of the public at the nearest public location (0.75 miles [1.2 kilometers] north-northeast from TA-55); the offsite population living within 50 miles (80 kilometers) of the CMRR-NF at TA-55; and a noninvolved worker assumed to be at the TA-55 boundary, about 240 yards (220 meters) from the CMRR-NF.

Table 4–10 No Action Alternative — Accident Frequency and Consequences

Accident	Frequency (per year)	Maximally Exposed Individual		Offsite Population [a]		Noninvolved Worker at TA Boundary	
		Dose (rem)	Latent Cancer Fatality [b]	Dose (person-rem)	Latent Cancer Fatalities [c]	Dose (rem)	Latent Cancer Fatality [b]
Safety-Basis Scenarios							
Facility-wide fire	0.0001	1.1	0.0007	700	0 (0.4)	5.9	0.004
Seismically induced spill	0.01	600	0.7	140,000	80	20,000	1
Seismically induced spill and fire [d]	0.0001	5,600	1	3,900,000	2,000	47,000	1
Loading dock spill/fire	0.01	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006
SEIS Scenarios							
Facility-wide fire	0.000001	0.011	0.000007	7.2	0 (0.004)	0.059	0.00004
Seismically induced spill	0.001	6.0	0.004	1,400	1 (0.8)	200	0.2
Seismically induced spill and fire [d]	0.0001	6.2	0.004	1,500	1 (0.9)	200	0.2
Loading dock spill/fire	0.0001	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006

SEIS = supplemental environmental impact statement, TA = technical area.
[a] Based on a projected 2030 population estimate of 511,000 persons residing within 50 miles (80 kilometers) of TA-55.
[b] Increased likelihood of an LCF for an individual if the accident occurs.
[c] Increased number of LCFs in the offsite population if the accident occurs (results rounded to one significant figure). When the reported value is zero, the result calculated by multiplying the collective dose to the population by the risk factor (0.0006 LCFs per person-rem) is shown in parentheses.
[d] In the seismically induced spill and fire accident, two sequential events are considered; first, the seismic spill occurs, then releases of material outside the building occur due to the fire.

Table 4–11 No Action Alternative — Annual Accident Risks

Accident	Risk of Latent Cancer Fatality		
	Maximally Exposed Individual [a]	Offsite Population [b, c]	Noninvolved Worker at TA Boundary [a]
Safety-Basis Scenarios			
Facility-wide fire	7×10^{-8}	4×10^{-5}	4×10^{-7}
Seismically induced spill	7×10^{-3}	8×10^{-1}	1×10^{-2}
Seismically induced spill and fire [d]	1×10^{-4}	2×10^{-1}	1×10^{-4}
Loading dock spill/fire	2×10^{-7}	4×10^{-5}	6×10^{-6}
SEIS Scenarios			
Facility-wide fire	7×10^{-12}	4×10^{-9}	4×10^{-11}
Seismically induced spill	4×10^{-6}	8×10^{-4}	2×10^{-4}
Seismically induced spill and fire [d]	4×10^{-7}	9×10^{-5}	2×10^{-5}
Loading dock spill/fire	2×10^{-9}	4×10^{-7}	6×10^{-8}

SEIS = supplemental environmental impact statement, TA = technical area.
[a] Increased risk of an LCF to the individual.
[b] Increased risk of an LCF in the offsite population.
[c] Based on a projected 2030 population estimate of 511,000 persons residing within 50 miles (80 kilometers) of TA-55.
[d] In the seismically induced spill and fire accident, two sequential events are considered; first, the seismic spill occurs, then releases of material outside the building occur due to the fire.

Table 4–10 presents the frequencies and consequences of the postulated set of accidents for these three receptors, and Table 4–11 presents the accident risks obtained by multiplying each accident's consequences by the likelihood (frequency per year) that the accident would occur.

As shown in Table 4–11, the accident with the highest potential risk would be a seismically induced spill (safety-basis scenario) that would severely damage the 2004 CMRR-NF. The annual risk of an LCF for the MEI would be 7×10^{-3}. In other words, the MEI's likelihood of developing a fatal cancer from this event would be about 1 chance in 143 per year. The dose to the offsite population would increase the risk of fatal cancers in the entire population. The risk of developing one fatal cancer in the entire population from this event would be 8×10^{-1} per year. Therefore, LCFs are expected to occur in the population if this accident occurs in the 2004 CMRR-NF. The risk of an LCF to a noninvolved worker would be 1×10^{-2}, or about 1 chance in 100 per year.

The risks associated with seismically induced accidents at the 2004 CMRR-NF, if they were to occur, would exceed DOE guidelines (see Appendix C) and would present unacceptable risks to the public and the LANL workforce. This is because the building is predicted to fail in the event of a design-basis earthquake (see Appendix C). The results presented in Tables 4–10 and 4–11 indicate that the 2004 CMRR-NF presents a very high risk to the offsite population. To reduce the doses to the offsite MEI and offsite population from these accidents to acceptable levels, the material at risk in the 2004 CMRR-NF would have to be reduced from 6.6 tons (6.0 metric tons) to about 11 pounds (5 kilograms) or less, severely limiting the usefulness of the building and rendering it unable to fulfill its mission.

Land contamination—A severe seismic event that results in the failure of building containment also has the potential to release sufficient quantities of plutonium that could lead to land contamination near the facility. Even for severe earthquakes that result in major damage to the building structure and failure of confinement systems, there should not be large energy sources to drive the materials that would typically be used in the proposed CMRR-NF, such as plutonium metal and oxides, out of the damaged building and rubble. Seismic collapse scenarios that result primarily in spills could release plutonium materials through the rubble, but that material would not generally go far from the building site. Seismic collapse scenarios that involve large fires have the potential to loft materials such that transport of radioactive materials downwind might result in land contamination at levels that could require monitoring or additional actions.

The No Action Alternative SEIS scenarios involving a seismically induced spill or a seismically induced spill and fire were modeled to evaluate the potential extent of land that might be contaminated above a screening level of 0.2 microcuries per square meter.[5] Estimates of land area that might be contaminated are highly dependent on specific accident source terms and metrological modeling assumptions. This is because the amount of radioactive material that may accumulate on the ground is highly dependent on the size of the particles that get through the building rubble and are released to the environment (which determines how fast they settle back to the ground), specific accident conditions (for example, presence of a fire), and specific meteorological conditions at the time of the earthquake (for example, high winds). In general, unless there is a fire that can effectively loft the plutonium particles into the air, most of the particles would return to the ground within a few hundred meters of the building location. In the event of a seismically induced spill followed by a large fire at the proposed 2004 CMRR-NF, the heat energy could effectively raise the release height such that ground contamination at the screening level could extend out to approximately 10 miles (16 kilometers) from TA-55, depending in large part on the meteorological conditions at the time of the accident.

[5] *This* CMRR-NF SEIS *uses a plutonium areal concentration of 0.2 microcuries per square meter as a screening level for determining the lateral extent of contamination that might require cleanup actions (Chanin 1996). This screening level was first proposed by EPA in the late 1970s, but never formally adopted. It has been used in many environmental impact statements as a screening level to indicate land areas that would or would not likely require remedial actions.*

Areas contaminated above a specified screening level (for example, 0.2 microcuries per square meter) would require further action, such as radiation surveys or cleanup. Costs associated with radiation surveys, cleanup, and continued monitoring could vary widely depending upon the characteristics of the contaminated area and could range in the hundreds of million dollars per square kilometer for land decontamination (NASA 2006). In addition to the potential direct costs, there are potential secondary societal costs associated with the mitigation from such high-consequence accidents. Those costs could include, but may not be limited to, the following:

- Temporary or longer-term relocation of residents
- Temporary or longer-term loss of employment
- Destruction or quarantine of agricultural products
- Land-use restrictions (which could affect real estate values, businesses, and recreational activities)
- Public health effects and medical care

Dose Impacts from Common Failure Mode Seismic Event—If a severe earthquake were to occur in the Los Alamos area, individuals close to and downwind from TA-55 might receive exposure from radioactive material releases at the existing TA-55 Plutonium Facility, as well as from the 2004 CMRR-NF, if it were built. As noted earlier, NNSA would not construct the 2004 CMRR-NF because it would not meet the standards for a PC-3 facility as required to safely conduct the full suite of CMR mission work. The TA-55 Plutonium Facility was originally designed to a lower seismic standard, but is in the process of being upgraded to withstand higher seismic loadings. In the *LANL SWEIS*, a site-wide seismic event that corresponded to approximately a PC-3 earthquake[6] resulted in estimated doses from the Plutonium Facility (TA-55-4), the Storage Facility (TA-55-185), and the Safe, Secure Transport Facility (TA-55-355) of 160 rem to the MEI and 14,880 person-rem to the population residing within 50 miles (80 kilometers) of TA-55. About 150 rem of the dose to the MEI was estimated to be from the TA-55 Plutonium Facility, the remaining 10 rem was from the other two facilities.

DOE has committed to seismic upgrades to the TA-55 Plutonium Facility that will result in an updated safety-basis estimate (NNSA 2010c, 2011) of mitigated consequences of less than 25 rem to the MEI (the DOE Evaluation Guideline described in DOE Standard 3009) for a seismically induced fire. Proposed future improvements that will be incorporated into the TA-55 Plutonium Facility include fire-rated containers, seismically qualified fire-suppression systems, and seismically qualified portions of the confinement ventilation system. The 2011 safety basis analysis prepared in support of NNSA's response to the DNFSB concluded that seismically upgrading the fire-suppression system would further reduce calculated offsite consequences to the MEI to the level estimated for the seismically induced spill without fire, which is about 9 rem (NNSA 2010c, 2011).

Under the No Action Alternative (the 2004 CMRR-NF), the MEI doses from the seismically induced spill or the seismically induced spill plus fire under the SEIS scenarios are estimated to be about 6 rem. For the MEI closest to the TA-55 area and for the surrounding population, doses from the 2004 CMRR-NF would add directly to those from the other TA-55 facilities in the event of such accidents. As discussed above,

[6] *The estimated dose consequences included in the* LANL SWEIS *(DOE 2008b) were based on a PC-3 seismic event with a return period of 2,000 years and a peak horizontal ground acceleration of approximately 0.31 g (the current PC-3 seismic event return period is 2,500 years). The* 2007 Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory *(LANL 2007a) had been recently issued and an evaluation of the effects of the new data on LANL facilities was just getting underway. The consequences of a current PC-3 seismic event could be higher than estimated in the* LANL SWEIS.

upgrades to the TA-55 Plutonium Facility are ongoing and will be completed a few years after the projected completion of the 2004 CMRR-NF. Prior to completion of the upgrades, the combined doses for the 2004 CMRR-NF and the TA-55 facilities would be those included in the *LANL SWEIS*, plus the dose from the 2004 CMRR-NF – approximately 166 rem to the MEI and 16,400 person-rem to the population for a seismically induced spill plus fire. Once the TA-55 Plutonium Facility upgrades are complete, the dose to the MEI would be about 25 rem, and the estimated dose to the population within 50 miles (80 kilometers) of LANL would be about 6,000 person-rem. For the MEI, this analysis takes into account the revised MEI dose of 19 rem (9 rem from the revised 2011 safety basis for the TA-55 Plutonium Facility and 10 rem for releases from other facilities at TA-55 per the 2008 *LANL SWEIS*). Given a severe seismic event accompanied by a fire, these doses represent a probability of the MEI developing a fatal cancer from this dose of 0.03, or approximately 1 chance in 33, and it is expected to result in up to 4 LCFs in the exposed population surrounding the site.

Involved Worker Impacts

Approximately 550 workers would be at the 2004 CMRR-NF and RLUOB during operations. The impacts on involved workers are very dependent on the type of accident, the severity of the accident, the location of workers, and protective action taken. An additional approximately 900 workers would be in close proximity in the Plutonium Facility. Any workers near an accident could be at risk of serious injury or death. Following initiation of accident and site emergency alarms, workers in adjacent areas of the facility would evacuate the area or shelter in place in accordance with the technical area and facility emergency operating procedures and training in place.

Hazardous Chemicals and Explosives Impacts

Some of the chemicals used in CMRR Facility operations are toxic and carcinogenic. The quantities of the regulated hazardous chemicals and explosive materials stored and used in the 2004 CMRR-NF would be well below the threshold quantities set by EPA (40 CFR Part 68) and would pose minimal potential hazards to the public health and the environment in an accident condition. These chemicals would be stored and handled in laboratory quantities and would only be a hazard to involved workers under accident conditions.

4.2.10.3 Intentional Destructive Acts

NNSA has prepared a classified appendix to this *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA's strategy for mitigation of environmental impacts resulting from extreme events, including intentional destructive acts, has three distinct components: (1) prevention or deterrence of successful attacks; (2) planning and timely and adequate response to emergency situations; and (3) progressive recovery through long-term response in the form of monitoring, remediation, and support for affected communities and the environment.

Depending on the intentional destructive acts, the impacts could be similar to the impacts of the accidents analyzed in this *CMRR-NF SEIS*. However, there may be intentional destructive act scenarios for which the impacts exceed those of the accidents analyzed. Analysis of these intentional destructive act impacts provides NNSA with information upon which to base, in part, decisions regarding the construction and operation of the 2004 CMRR-NF. The classified appendix evaluates the similarity of scenarios involving intentional destructive acts with those evaluated in the *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (LANL SWEIS)* and *Complex Transformation Supplemental Programmatic Environmental Impact Statement* and presents the potential consequences to a noninvolved worker, an MEI, and the population in terms of physical injuries, radiation doses, and LCFs. Although the results of the analyses cannot be disclosed, the following general conclusion can be drawn: the potential consequences of intentional destructive acts are highly dependent on the distance to the site boundary and the size and proximity of the surrounding population; the closer and denser the surrounding population, the higher the consequences. In addition, it is generally easier and more cost-effective to protect new facilities because new security features can be incorporated into their design. In other words, the protective forces needed to defend new facilities may be smaller due to the inherent security features of a new facility. New facilities can, as a result of design features, better prevent security attacks and reduce the impacts of such attacks.

4.2.11 Environmental Justice

Construction Impacts—As discussed throughout the other subsections of Section 4.2, environmental impacts due to construction would be temporary and would not extend beyond the boundary of LANL. For these reasons, under the No Action Alternative, construction at TA-55 would not result in disproportionately high and adverse environmental impacts on the public living within the potentially affected area surrounding TA-55, including low-income and minority populations.

Operations Impacts—Radiological and hazardous chemical risks to the public resulting from normal operations would be small. Table 4–8 shows the health risks associated with these releases also would be small. Normal operations at the CMRR Facility at TA-55 are not expected to cause fatalities or illness among the general population surrounding TA-55, including minority and low-income populations living within the potentially affected area.

Residents of the Pueblo of San Ildefonso have expressed concern that pollution from CMRR Facility operations could contaminate Mortandad Canyon, which drains onto pueblo land and sacred areas. CMRR Facility operations under this alternative are not expected to adversely affect air quality. There would be no direct liquid discharges and stormwater management controls would be in place to collect stormwater and prevent washout and soil erosion. Thus, there would be no contamination of tribal lands adjacent to the LANL boundary (DOE 2003b). In summary, implementation of the No Action Alternative would not pose disproportionately high and adverse environmental risks to low-income or minority populations living in the potentially affected area around the CMRR Facility at TA-55.

4.2.12 Waste Management and Pollution Prevention

Construction Impacts—Only nonhazardous waste would be generated from construction activities to relocate CMR Building operations and materials to the 2004 CMRR-NF at TA-55. No radioactive or hazardous waste would be generated during construction activities.

Solid, nonhazardous waste generated from construction activities associated with the 2004 CMRR-NF at TA-55 would be processed at the Los Alamos County Eco Station, where it would be separated into materials suitable for recycle or disposal, then disposed of at an offsite solid waste facility permitted to accept the waste. Approximately 578 tons (524 metric tons) of solid, nonhazardous waste, consisting primarily of gypsum board, wood scraps, nonrecyclable scrap metals, concrete, steel, and other construction waste, would be generated from the construction activities. Management of this additional waste at LANL would be within the capabilities of the LANL waste management program, but additional waste management personnel may be required.

Construction debris would be collected in appropriate waste containers and transported to the receiving landfill on a regular basis. Sanitary wastewater generated as a result of construction activities would be managed using portable toilet systems. No other nonhazardous liquid wastes are expected.

Operations Impacts—The impacts on the LANL waste management systems, in terms of managing the waste, are discussed in this section. Waste generation rates, by waste type, are summarized in **Table 4–12** for CMRR Facility operations and overall LANL activities. Radioactive solid and liquid wastes from CMRR Facility operations would constitute only a portion of the total amounts of these wastes generated, treated, and/or disposed of at LANL. The radiological and chemical impacts of managing CMRR Facility radioactive waste on workers and the public have been evaluated along with the other LANL site wastes in other environmental documentation (at the time of the 2003 *CMRR EIS*, the 1999 *LANL SWEIS* (DOE 1999a) included evaluation of these wastes).

Table 4–12 No Action Alternative — Operational Waste Generation Rates Projected for CMRR Facility and Los Alamos National Laboratory Activities

Waste Type	*Units*	*CMRR Facility Generation Rate* [a]	*Site-Wide LANL Projections* [b]
Transuranic and mixed transuranic	Cubic yards per year	88 [c]	440 to 870
Low-level radioactive	Cubic yards per year	2,640 [d]	21,000 to 115,000
Liquid low-level radioactive	Gallons per year	2,700,000	4,000,000
Mixed low-level radioactive	Cubic yards per year	26	320 to 18,100
Chemical [e]	Tons per year	12.4	3,200 to 5,750
Sanitary	Gallons per year	7,200,000 [f]	156,000,000 [g]

CMRR = Chemistry and Metallurgy Research Replacement; LANL = Los Alamos National Laboratory; SEIS = supplemental environmental impact statement.

[a] DOE 2003b.

[b] Estimated site-wide LANL projections based on estimates included in the 2008 *LANL SWEIS* (DOE 2008a).

[c] Includes both transuranic and mixed transuranic waste.

[d] Volumes of low-level radioactive waste include solid wastes generated by the treatment of low-level radioactive liquid wastes generated by CMRR Facility operations.

[e] Chemical waste is not a formal LANL waste category; however, as was done in the 2008 *LANL SWEIS* (DOE 2008a), the term is used in this SEIS to denote a variety of materials including hazardous waste regulated under the Resource Conservation and Recovery Act; toxic waste regulated under the Toxic Substances Control Act; and special waste designated under the New Mexico Solid Waste Regulations, including industrial waste, infectious waste, and petroleum-contaminated soil.

[f] Calculated assuming 550 CMRR Facility workers, each generating 50 gallons per day for 260 workdays per year.

[g] The value shown is the annual volume of wastewater processed at the Sanitary Wastewater Systems Plant in TA-46, assuming operation at its 600,000-gallon-per-day (2.27-million-liter-per-day) design capacity for 260 working days per year (DOE 2003b). Sanitary wastewater and nonradioactive liquid waste are both projected to be routed to the Sanitary Wastewater Systems Plant for treatment.

Note: The generation rates are attributed to facility operations and do not include the waste generated from environmental restoration actions. To convert cubic yards to cubic meters, multiply by 0.76456; gallons to liters, by 3.78533; tons to metric tons, by 0.90718.

Transuranic and Mixed Transuranic Wastes

Analytical, processing, fabrication, and research and development activities at the CMRR Facility would generate transuranic waste. Approximately 88 cubic yards (67 cubic meters) of transuranic and mixed transuranic waste would be generated each year. Any transuranic waste generated by CMRR Facility operations would be transported to the Waste Isolation Pilot Plant (WIPP) or a similar facility for disposition. Transuranic waste volumes generated through CMRR Facility operations over the life of the facility are estimated to be less than 2 percent of the WIPP capacity. Offsite disposal capacities for transuranic waste are expected to be adequate for the disposal needs of LANL, including CMRR Facility operations.

Low-Level Radioactive Waste

About 2,640 cubic yards (2,020 cubic meters) of solid low-level radioactive waste would be generated each year from CMRR Facility operations. Volumes of low-level radioactive waste from CMRR Facility operations include the solid low-level radioactive component of liquid wastes treated through RLWTF or a similar facility. The impacts of managing this waste at LANL would be minimal.

CMRR Facility operations would also generate liquid low-level radioactive waste. Because the exact amount of liquid low-level radioactive waste that would be generated by the CMRR Facility at TA-55 is not known, the 10,400 gallons (39,400 liters) per day (2.7 million gallons [10 million liters] per year) associated with operations in the CMR Building were estimated to be generated by operations at the CMRR Facility as well. Therefore, the amount of solid low-level radioactive waste that would result from RLWTF treatment of liquid low-level radioactive waste generated by CMRR Facility operations was estimated to be 200 cubic yards (150 cubic meters) annually and is included as low-level radioactive waste in Table 4–12. RLWTF capacity is expected to be sufficient to manage the liquid low-level radioactive waste generated by CMRR Facility operations.

Mixed Low-Level Radioactive Waste

Mixed low-level radioactive waste generated from CMRR Facility operations at TA-55 would be surveyed and decontaminated on site, if possible. Those remaining wastes would be treated on site or stored and processed at TA-54, Area G, or Area L and transported to a commercial or DOE offsite treatment and disposal facility. About 26 cubic yards (20 cubic meters) of mixed low-level radioactive waste would be generated each year. The impacts of managing this waste at LANL would be minimal.

Sanitary Wastewater

Sanitary wastewater generated from CMRR Facility operations at TA-55 would be sent to the Sanitary Wastewater Systems Plant. Approximately 27,500 gallons per day (104,000 liters per day) of sanitary wastewater would be generated for 260 working days per year. This would represent about 4.6 percent of the 600,000-gallon-per-day (2.27-million-liter-per-day) design capacity of the Sanitary Wastewater Systems Plant.

Chemical Waste

Chemical waste generated from CMRR Facility operations at TA-55 would be decontaminated or recycled, if possible. Typically, chemical waste is not held in long-term storage at LANL. Approximately 12.4 tons (11.2 metric tons) of chemical waste would be generated each year. The impacts of managing this waste at LANL would be minimal.

4.2.13 Transportation and Traffic

4.2.13.1 Transportation

A transportation impact assessment was conducted for (1) the one-time movement of special nuclear material (SNM), equipment, and other materials during the transition from the existing CMR Building to the 2004 CMRR-NF and (2) the routine onsite shipment of analytical chemistry and materials characterization samples between the Plutonium Facility at TA-55 and the CMRR Facility at TA-55. The results of this impact assessment are presented below for incident-free and transportation accident impacts to the public and workers.

Routine (Incident-Free) Transportation

One-Time Movement of SNM, Equipment, and Other Materials—Transport of SNM, equipment, and other materials currently located at the CMR Building to the 2004 CMRR-NF at TA-55 would occur on open or closed roads. The public is not expected to receive any measurable exposure from the one-time movement of radiological materials associated with this action.

CMR Building workers could receive a minimal dose from shipping and handling of SNM during the transition from the existing CMR Building to the 2004 CMRR-NF. Based on a review of radiological exposure information, the average dose to CMR Building workers (including material handlers) is about 110 millirem per year. The material handler worker dose from shipping and handling of SNM would be similar to those for normal operations currently performed at the CMR Building.

Routine Onsite Shipment of Analytical Chemistry and Materials Characterization Samples—The public is not expected to receive any additional measurable exposure from the movement of small quantities of radioactive materials and SNM samples between the Plutonium Facility at TA-55 and the CMRR Facility at TA-55. These include metal, liquid, or powder samples of weapons-grade plutonium, plutonium-238, uranium-235, uranium-233, and other actinide isotopes.

Transportation Accidents

One-Time Movement of SNM, Equipment, and Other Materials—Potential handling and transport accidents during the one-time movement of SNM, equipment, and other materials during the transition from the existing CMR Building to the 2004 CMRR-NF at TA-55 would be bounded in frequency and consequence by other facility accidents under each of the alternatives presented in this chapter. Once a shipment is prepared for low-speed movement, the likelihood and consequences of any foreseeable accident are considered to be very small.

4.2.13.2 Traffic

Construction Impacts – Truck Traffic—Under the No Action Alternative, construction of the 2004 CMRR-NF would take approximately 3 years. Construction impacts would occur in the time period from 2012 to 2015. This alternative would require excavation of a 68,000-square-foot (6,300-square-meter) area to a depth of 50 feet (15 meters), of which approximately 30 feet (9.1 meters) have already been excavated as part of the geologic analysis of the site, leaving approximately 20 feet (6.1 meters) to be excavated. The excavated soil and rock material would be stored in temporary storage piles assumed to be located approximately 3 miles (4.8 kilometers) from the 2004 CMRR-NF construction site in appropriate storage areas. Excavation of the additional 20 feet and the tunnels to be constructed between RLUOB and the TA-55 Plutonium Facility to the 2004 CMRR-NF would require the removal of approximately 77,000 cubic yards (59,000 cubic meters) of material. This would take approximately 5,000 20-ton truck round trips or 3,300 30-ton truck round trips to move. This material would be staged at a LANL materials staging area for future reuse in other LANL projects.

The number of truck trips per hour would depend on the method used for excavation of the 2004 CMRR-NF. Assuming a 20-minute round trip to the LANL materials staging area, it would take approximately 54 days with one loader and 20-ton trucks or approximately 36 days with one loader and 30-ton trucks to remove the excavated soils and rock. This time period could be shortened by using two loaders, which would be preferable because it would keep trucks operating more efficiently. On a per-hour basis, these trips would be insignificant to the level of service on Pajarito Road. The acceleration of the loaded earthwork trucks would be slow and would result in lower speeds and some reduction in the level of service in the road segment where the trucks accelerate. Pajarito Road is not accessible by the public.

Bulk materials would be delivered to the 2004 CMRR-NF by either standard three-axle dump trucks (20-ton trucks) or five-axle bottom dump trucks (30-ton trucks). This material would be required over the period when the foundation and shell of the 2004 CMRR-NF are being constructed. Approximately 3,200 cubic yards (2,400 cubic meters) of structural concrete and 5,000 cubic yards (3,800 cubic meters) of other concrete would be required (DOE 2003b). To support the concrete batch plant operation for all concrete operations, the following materials would be required (DOE 2003b):

- Approximately 3,700 tons (3,400 metric tons) of coarse aggregate (180 20-ton trucks or 120 30-ton trucks)
- Approximately 3,700 tons (3,400 metric tons) of fine aggregate (sand) (180 20-ton trucks or 120 30-ton trucks)
- Approximately 1,500 tons (1,400 metric tons) of cement (75 20-ton trucks or 50 30-ton trucks)
- Approximately 800 tons (730 metric tons) of fly ash (40 20-ton trucks or 27 30-ton trucks)
- The No Action Alternative would also require approximately 270 tons (240 metric tons) of structural steel (14 20-ton trucks or 9 30-ton trucks) (DOE 2003b).

Most of the length of Pajarito Road from TA-63 to White Rock was repaved in October 2010 (LANL 2011a:Data Call Tables, 001). It now consists of an average of 4 inches (10.2 centimeters) of asphaltic concrete over 8 inches (20.3 centimeters) of aggregate base course. Consideration of the methods contained in the *AASHTO Guide for Design of Pavement Structures* (AASHTO 1993) indicates that this pavement would withstand the expected truck traffic only if the relative quality of the roadbed soil is "very good" according to American Association of State Highway and Transportation Officials standards. If the relative quality of the roadbed soil is less strong, it is possible that the pavement would fail structurally. A second method of failure would be at the edge of the pavement if that edge is not adequately supported laterally. Pajarito Road has 8-foot, paved shoulders, which would provide the necessary lateral support. The roadway shoulders and especially the edges of the shoulders might be subject to damage if trucks were to use the shoulders on a regular basis.

Construction Impacts – Worker Traffic—Under all alternatives, the workers going to the 2004 CMRR-NF are expected to use the public roadways. A peak of 300 workers is anticipated to commute to parking areas. For this analysis, the peak commuting time of these workers would align with the peak-hour traffic on the adjoining public roadways. Three hundred construction workers are anticipated to add an estimated 200 peak-hour trips. These 200 additional commuter vehicles (300 workers) were added to the existing traffic to determine the anticipated level of service. As shown in **Table 4–13**, the impacts on traffic were compared for the year 2012, the year that construction would start, and 2015, the year that construction would be completed. No change in the level of service of roadways in the vicinity of LANL is anticipated during the construction period.

Operations Impacts—The employees currently working at the existing CMR Building and other facilities at LANL are expected to relocate to the CMRR Facility. There would be no impact from traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL over the existing conditions.

Table 4–13 No Action Alternative — Expected Levels of Service of Roadways in the Vicinity of Los Alamos National Laboratory

Location	*Road Type and Number of Lanes*	*AADT/Year/ Percentage Trucks*	*Existing Traffic*		*No Action Alternative*		*Comments (assumed percentage of construction traffic assigned to road segment) (200 VPH)*
			AADT/ Peak Hour/ LOS	*AADT/ Peak Hour/ LOS*	*Peak Hour/ LOS*	*Peak Hour/ LOS*	
Year			*2012*	*2015*	*2012*	*2015*	
SR 4 at Los Alamos County Line to SR 501	Minor arterial/ two lanes	734/ 2009/9	760/ 80/A	780/80/A	100/A	100/A	(10) No change in level of service
SR 4 at Junction Bandelier Park Entrance	Minor arterial/ two lanes	681/ 2009/7	700/ 70/A	710/70/A	90/A	90/A	(10) No change in level of service
SR 4 at Junction of Pajarito Road – White Rock	Minor arterial/ two lanes	9,302/ 2009/9	9,580/ 960/D	9,770/ 980/D	1,140/D	1,160/D	(90) No change in level of service
SR 4 at Junction of Jemez Road	Minor arterial/ two lanes	9,358/ 2009/12	9,640/ 960/D	9,830/ 980/D	1,140/D	1,160/D	(90) No change in level of service
SR 501 at Junction of SR 4 to Diamond Drive	Minor arterial/ two lanes	11,848/ 2009/11	12,210/ 1,220/D	12,460/ 1,250/D	1,260/D	1,290/D	(90) No change in level of service
SR 501 at Junction of Diamond Drive and Onward	Primary arterial/ four lanes	21,211/ 2009/8	21,850/ 2,190/C	22,290/ 2,230/C	2,230/C	2,270/C	(90) No change in level of service
SR 501 at Junction 502	Primary arterial/ four lanes – divided	17,807/ 2009/8	18,350/ 1,840/C	18,720/ 1,870/ C	1,940/C	1,970/C	(20) No change in level of service
SR 502 at Junction Openheimer Street	Primary arterial/ four lanes – divided	12,817/ 2009/6	13,210/ 1,320/C	13,480/ 1,350/C	1,420/C	1,450/C	(20) No change in level of service
SR 502 East of Junction with SR 4	Primary arterial/ four-lane freeway	6,341/ 2009/12	6,530/ 650/A	6,660/ 670/A	670/A	690/A	(10) No change in level of service

AADT = average annual daily traffic; LOS = level of service; SR = State Road; VPH = vehicles per hour.

4.3 Environmental Impacts of the Modified CMRR-NF Alternative

4.3.1 Modified CMRR-NF Alternative

This section presents the environmental impacts associated with the Modified CMRR-NF Alternative. This alternative addresses seismic safety and security concerns associated with the No Action Alternative. Among the concerns identified in the seismic and geologic studies is the presence of a subsurface layer of poorly welded volcanic tuff. The layer would need to be removed or modified to provide a stable medium on which to build the Modified CMRR-NF or the facility would be constructed at a sufficient height above this layer. As a result, two construction options are being considered under the Modified CMRR-NF Alternative.

The Deep Excavation Option would involve excavating the identified footprint another 100 feet (30 meters) to a nominal depth of 130 feet (40 meters), thus removing the poorly welded tuff layer. The excavation would then be backfilled with concrete up to 60 feet (18 meters) to provide a stable surface on which to build. The Shallow Excavation Option would involve constructing the Modified CMRR-NF in the stable geologic layer overlying the poorly welded tuff layer, 17 feet (5.2 meters) above the interface between the two layers.

Additional CMRR Project activities analyzed under this alternative include the following (see Chapter 2, Section 2.6):

- TA-50 electrical substation
- TA-48/55 bus parking lot and TA-72 parking lot
- Pajarito Road realignment and buried utilities relocation activities
- Construction laydown areas and warehouse (TA-46/63 and TA-48/55)
- Construction laydown and support areas (including spoils storage areas) (TA-5/52)
- Concrete batch plants (TA-46/63 and TA-48/55)
- Power upgrades (TA-5 to TA-55)
- Spoils storage areas (TA-36, TA-51, TA-54)
- Stormwater detention ponds (TA-48, TA-50, TA-63, TA-64, TA-72)

As under the No Action Alternative, the Modified CMRR-NF would be linked to the newly constructed RLUOB via an underground tunnel, and another underground tunnel would be constructed to connect the TA-55 Plutonium Facility with the Modified CMRR-NF. The vault for long-term storage of SNM would be within the footprint of the Modified CMRR-NF. Chapter 2, Section 2.6.2, provides a complete description of the Modified CMRR-NF Alternative. The impacts of construction and operation of this proposed facility are described in the following sections for both the Deep Excavation Option and the Shallow Excavation Option. Regardless of the construction option, the impacts from operations would not affect the performance of the building once it was constructed. Under either construction option, the resulting building would meet the current standards required for a PC-3 facility so it would perform the same in the event of a seismic accident. The operations impacts discussed below include those from the operation of RLUOB. The impacts of operating the existing CMR Building would continue during the construction of the Modified CMRR-NF at TA-55. In addition, under the Modified CMRR-NF Alternative, there would be a transition period of 3 years, during which operations impacts could exist in whole or in part from both the existing CMR Building and the Modified CMRR-NF. Disposition of this Modified CMRR-NF is discussed in Section 4.5.

4.3.2 Land Use and Visual Resources

4.3.2.1 Land Use

Construction Impacts – Deep Excavation Option—Construction of the Modified CMRR-NF under the Deep Excavation Option of the Modified CMRR-NF Alternative encompasses numerous project elements that would involve both temporary and permanent facilities. These project elements would have the potential to impact land use within TA-5, TA-36, TA-46, TA-48, TA-50, TA-51, TA-52, TA-54, TA-55, TA-63, TA-64, and TA-72. **Table 4–14** lists the various project elements and the technical areas in which they would occur. Also presented in the table are the total acreages involved and the acreage of land that is presently undeveloped, whether the action would be temporary or permanent, the present land use designation of the area in which each project element would occur, and whether there would be a change in land use. Impacts on land use under the Deep Excavation Option for the various project elements are addressed below.

Table 4–14 Modified CMRR-NF Alternative, Deep Excavation Option — Land Use Impacts

Project Element	*Technical Area*	*Acreage (total/undeveloped)*	*Status*	*Present Land Use*	*Change in Land Use*
Pajarito Road realignment	55	3.4/2	P	Reserve	Yes
Electrical substation	50	1.4/1.4	P	Reserve	Yes
Stormwater detention ponds	50	0.5/0.5	P	Reserve	Yes
	64	1/1	P	Reserve	Yes
Spoils storage areas [a]	36	39.1/39.1	T	High Explosives Testing	Yes
	51	9.1/9.1	T	Reserve	Yes
	54	18.6/18.6	T	Reserve	Yes
Parking lot and associated road improvements	72	13–15/13–15	T	Reserve	Yes
Bus parking lot	48/55	3/3	T	Reserve	Yes
Power upgrades	55 through 50, 63, and 52 to 5	9.1/2	T/P	Along or adjacent to existing rights-of-way within developed areas; however, within TA-52 and -5, the right-of-way is within an area designated Reserve.	No change along portions of the route that are developed; however, land use would change along the portion of the route designated Reserve.
Construction laydown/concrete batch plant	46/63	40/33.5	T	Administrative, Service, and Support (TA-46); Reserve (TA-63)	No (TA-46); Yes (TA-63)
	48/55	20/16	T	Reserve and Experimental Science (TA-48); Theoretical and Computational Science (TA-55)	No (Experimental Science portion of TA-48 and TA-55); Yes (Reserve portion of TA-48)
Construction laydown and support area [a]	5/52	19.1/19.1	T	Reserve	Yes

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; P = permanent; T = temporary; TA = technical area.

[a] About 67 acres (27 hectares) of potential spoils storage area have been identified in TA-36, TA-51, and TA-54; also additional acreage in TA-5/52 could be used for spoils storage. However, only 30 acres (12.1 hectares) are expected to be needed to support this project under the Deep Excavation Option.

Note: To convert acres to hectares, multiply by 0.40469.

Source: LANL 2011a:Data Call Tables, 002, 003, 025, 027.

Pajarito Road Realignment—The realignment of a 0.5-mile (0.8-kilometer) section of Pajarito Road south of the Modified CMRR-NF would disturb 3.4 acres (1.4 hectares) of land on the south side of the road, 2 acres (0.8 hectares) of which have not been previously developed, in addition to requiring movement of the buried utilities. The road shift would ensure proper placement of the Modified CMRR-NF perimeter intrusion security fence in proximity to Pajarito Road (LANL 2010d). The undeveloped portion of the affected area is presently designated as Reserve, indicating that it is vacant land not otherwise included in one of the other land use categories (see Chapter 3, Figure 3–1). Thus, this area would be dedicated to transportation and would fall under the Physical and Technical Support land use category and no longer be classified as Reserve. The realignment would not impact operations at any other facilities along Pajarito Road.

Electrical Substation—If needed, the CMRR Project would install a new substation, as analyzed in the 2008 *LANL SWEIS*, on the existing 115-kilovolt power distribution loop in TA-50, just south of the existing RLUOB construction office trailers. The new substation would be a permanent installation that would provide an independent power feed (about 40 megawatts) to the existing TA-55 complex and the Modified CMRR-NF and RLUOB. The substation would require 1.4 acres (0.57 hectares) (LANL 2010d). This project would result in a permanent change in the land use designation of the area from Reserve to Physical and Technical Support. Instead of installing this substation, another action being evaluated is the installation of a new electrical feed from the TA-3 substation along an existing utilities right-of-way.

Stormwater Detention Ponds—Approximately 1.5 acres (0.6 hectares) would be required for permanent stormwater detention ponds to be located south of Pajarito Road in TA-64 and adjacent to the electrical substation in TA-50. Each of these areas is presently designated as Reserve; however, once the detention ponds are in place, the land use designation would change to Physical and Technical Support. Additional stormwater detention ponds would be located within TA-63 (one temporary and one permanent), TA-48 (temporary), and TA-72 (temporary). However, because these fall within those portions of the technical areas that would be disturbed by other activities, their acreage is not included here to avoid double counting. The existing detention pond at TA-63 that would be enlarged would not experience a change in land use designation. As the project proceeds, there may be a need for additional or larger detention ponds; however, they would be placed within areas already identified and analyzed in this *CMRR-NF SEIS*.

Spoils Storage Areas—Spoils storage would require a total of 30 acres (12.1 hectares) of land. The space needed for excavated materials storage would not have to be collocated; that is, it could be broken up across available acreage. Thus, a number of areas, not all of which would be needed, have been identified that could be used to stage excavated spoils. The determination of which areas would be used would be made at a later date once the exact construction schedule is developed (LANL 2010d). As indicated in Table 4–14, spoils storage could take place within TA-36, TA-51, and TA-54. Land use within the potential spoils areas in TA-51 and TA-54 is designated Reserve, while land use in TA-36 is designated High Explosives Testing. Thus, the use of any of these areas for spoils storage would change the present land use. Temporary spoils storage areas would be restored to a more-natural state after they are no longer needed, which could lead to a re-establishment of the current land use designation.

Parking Lot— Two temporary parking lots are planned under this alternative. A bus parking lot would be constructed straddling the boundary of TA-48 and -55, with capacity for 15 buses. Its construction would disturb 3 acres (1.2 hectares).

A second parking lot for commuters and associated road improvements would be constructed in TA-72 along the south side of East Jemez Road, east of the TA-72 firing range. This lot would have 600 to 800 parking spaces and a truck loop area and would require from 13 to 15 acres (5.3 to 6.1 hectares) (LANL 2010d). Both areas are designated Reserve; thus, their use for temporary parking lot would result in a change in land use designation to Physical and Technical Support. Both parking areas would be restored to a more-natural state after they are no longer required for Modified CMRR-NF construction. This could lead to a re-establishment of the Reserve land use designation.

Power Upgrades—It would be necessary to upgrade power services for the Modified CMRR-NF construction site and support activities. These upgrades could be either temporary or permanent, depending on future power requirements. The power upgrades project would bring in power along a route from the TA-5 eastern technical area substation along Puye Road through TA-5, TA-52, and TA-63, then through TA-50, along Pecos Drive and through a new underground duct to the Modified CMRR-NF site in TA-55. In general, the project would use existing electric utility easements and overhead power poles (LANL 2010d). However, some new overhead poles may be needed, which would disturb an estimated 2 acres (0.8 hectares) of the 9.1 acres (3.7 hectares) total for this activity. The land that would be newly disturbed is primarily in TA-52 adjacent to Puye Road and is presently designated Reserve. It is also possible that underground ducts could be used instead of new overhead poles for this segment of the route. Use of this area would change the land use designation either temporarily or permanently to Physical and Technical Support. Other alternatives for power upgrades are discussed above in the Electrical Substation section.

Construction Laydown and Concrete Batch Plants—The Modified CMRR-NF Project would utilize two areas for construction laydown and support services: one would be located in portions of TA-46 and TA-63 and a second would be located in TA-48 and TA-55. Both areas would provide space for construction office trailers, temporary parking, a concrete batch plant, and construction laydown and storage. Both would also be temporary and would include some areas that were formerly used as material storage and laydown sites. The TA-46/63 site covers 40 acres (16.2 hectares) and is designated Administrative, Service, and Support (TA-46) and Reserve (TA-63). The TA-48/55 site covers 20 acres (8.1 hectares) and is designated Reserve and Experimental Science (TA-48) and Theoretical and Computational Science (TA-55) (LANL 2010d). The use of both construction laydown sites would require some clearing of vegetation and would alter the current land use designation for the duration of the project. However, following construction, the portions of each area currently designated as Reserve would be restored and revert to that designation.

Construction Laydown and Support Area—Construction support would require an area of 19.1 acres (7.7 hectares) within TA-5/52. This area could be used for a variety of construction-related needs, including storage of equipment and spoils. The use of this area during construction of the Modified CMRR-NF would result in a change in its present Reserve land use designation. However, upon completion of construction, the area could be restored to its present condition, thus leading to the re-establishment of its current land use designation.

The duration of the temporary use of land would vary depending primarily on the land use under the project. Land used for batch plants, laydown, support areas, detention ponds, and parking would be revegetated soon after it is no longer needed for the project. Temporary use of land for spoils storage would continue until the spoils are used up (for landscaping or for other construction projects elsewhere).

Construction Impacts – Shallow Excavation Option—Construction of the Modified CMRR-NF under the Shallow Excavation Option would entail the same project elements noted above under the Deep Excavation Option. However, only 10 acres (4 hectares) would be required for spoils storage. Further, the potential spoils storage areas being considered for this option would only include the 19.1-acre (7.7-hectare) site in TA-5/52 and the 9.1-acre (3.7-hectare) site in TA-51. A determination of which areas would be used would be made at a later date after the exact construction schedule is developed (LANL 2010d).

Operations Impacts—Under both of the Modified CMRR-NF Alternative construction options, there would be a land commitment associated with facility operations of 28.1 acres (11.4 hectares), including 4.8 acres (1.9 hectares) for the Modified CMRR-NF, 4 acres (1.6 hectares) for RLUOB, 13 acres (5.3 hectares) for the TA-50 parking lot, 3.4 acres (1.4 hectares) for the Pajarito Road realignment, 1.4 acres (0.6 hectares) for the electrical substation, and 1.5 acres (0.6 hectares) for stormwater detention ponds. There would be no additional change in land use as a result of operations of the Modified CMRR-NF and RLUOB because any changes that would take place would have already occurred during construction.

4.3.2.2 Visual Resources

Construction Impacts – Deep Excavation Option—A general description of the appearance of each technical area affected by the proposed action and alternatives is presented in Chapter 3, Table 3–2. Project elements undertaken under the Deep Excavation Option of the Modified CMRR-NF Alternative would affect the appearance of the individual technical areas in which they would take place. More importantly, when taken together, they have the potential to affect the overall visual environment of LANL. Most development under this option would occur along the central portion of the Pajarito Road corridor; however, spoils storage could occur to the east in TA-36, TA-51, and TA-54. Additionally, a parking lot would be located in TA-72.

As much of the proposed development associated with the various project elements that would take place under the Deep Excavation Option for the Modified CMRR-NF Alternative would occur within or adjacent to developed areas along the central Pajarito Road corridor, there would be little overall change in the industrial appearance of the area. New construction in these areas would generally take place within or adjacent to previously developed areas; thus, it would not represent a significant change in the visual environment. Because Pajarito Road is closed to the public, near views of CMRR-related development along the roadway would be restricted to site workers. As viewed from higher elevations to the west, new development along the central portion of Pajarito Road would result in little change to the area's present appearance. Further, new required lighting would not noticeably change the present nighttime appearance of the site. Overall, there would be no change in the current U.S. Bureau of Land Management (BLM) Visual Resource Contrast Class IV rating along the central portion of Pajarito Road. Visual impacts to the east along Pajarito Road in the vicinity of TA-36, TA-51, and TA-54 could be more noticeable because this portion of the roadway has little adjacent development. Because many project elements are temporary in nature, visual impacts would decrease once the construction phase of the Modified CMRR-NF project is complete and temporarily disturbed areas are restored to a more-natural appearance.

One project element that would be located some distance from the Pajarito Road corridor under this alternative is the TA-72 parking lot, which would be built approximately 0.75 miles (1.2 kilometers) west of the intersection of East Jemez Road and New Mexico State Road 4. Construction of the 13- to 15-acre (5.3- to 6.1-hectare) parking lot would require removal of all vegetation, as well as leveling the site, which would change its natural appearance. The parking lot would be readily seen by both site workers and the general public because traffic along the road is not restricted, as it is along Pajarito Road. In addition, because it would be lit at night, it would be readily seen from East Jemez Road, and the nighttime sky glow would be visible from New Mexico State Road 4 and the Tsankawi Unit of Bandelier National Monument. It would also be readily seen from nearby higher elevations. Installed lighting would comply with the New Mexico Night Sky Protection Act to the extent that it would not compromise security. Development of this part of TA-72 would result in a change in the BLM visual resource contrast rating from Class III to a Class IV. Following completion of the Modified CMRR-NF, the parking lot would be restored to a more-natural state. However, it would take years before the area would return to its predisturbance appearance.

Construction Impacts – Shallow Excavation Option—Impacts on visual resources resulting from implementation of the Shallow Excavation Option would be similar to those described under the Deep Excavation Option. However, only 10 acres (4 hectares) within TA-5/52 and TA-51 would be needed for spoils storage. Thus, overall visual impact of the project during the period when spoils would be stored would be less than under this option compared with the Deep Excavation Option.

Operations Impacts—Once the Modified CMRR-NF becomes operational and the spoils storage area(s) is closed and restored to a more-natural state, the appearance of the involved technical areas under both options for the Modified CMRR-NF Alternative would approximate preconstruction conditions. The

Modified CMRR-NF itself, excluding the cupola roofs, would range from about 20 feet (6 meters) to 55 feet (17 meters) above ground, which would primarily be viewed by LANL employees because Pajarito Road is closed to the public. When viewed from higher elevations to the west, the Modified CMRR-NF and RLUOB would blend in with existing development along the central portion of Pajarito Road. Their presence would not change the BLM Visual Resource Contrast Class IV rating.

4.3.3 Site Infrastructure

Construction Impacts – Deep Excavation Option—Planned and proposed construction activities (see **Table 4–15**) are expected to have a temporary effect on the electrical power requirements at LANL. During the construction phase (about 9 years), the temporary increase in power would be approximately 6 percent of the available (surplus) energy capacity at LANL and would not impact the available energy supply to any current or projected uses. The temporary increase in the peak load demand would be approximately 75 percent of the available (surplus) capacity. With planned upgrades and modifications (see Chapter 2, Section 2.6.2), existing infrastructure would be capable of supporting the construction requirements for the Modified CMRR-NF proposed under this alternative without exceeding site capacities.

Table 4–15 Modified CMRR-NF Alternative, Deep Excavation Option — Site Infrastructure Requirements for Facility Construction

Resource	*Available Site/System Capacity* [a]	*CMRR-NF Project Requirement*	*Percentage of Available Site Capacity*
Electricity			
Energy (megawatt-hours per year)	513,000	31,000	6
Peak load demand (megawatts)	16	12	75
Fuel			
Natural gas (million cubic feet per year)	5,860	Not applicable	Not applicable
Propane (gallons per year) [b]	Not applicable	19,200	Not applicable
Water (million gallons per year)	130	5	4

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.
[a] A calculation based on the system-wide (site-wide for water) capacity from data provided in Chapter 3, Table 3–3, of this *CMRR-NF SEIS*.
[b] Use of propane would be limited to the winter months for a period of 3 to 6 years.
Note: To convert cubic feet to cubic meters, multiply by 0.028314; gallons to liters by 3.78533.
Source: LANL 2011a:Data Call Tables, 002; Infrastructure, 026.

No natural gas would be needed for construction of the Modified CMRR-NF. Although gasoline and diesel fuel would be required to operate construction vehicles, generators, and other construction equipment, fuel would be procured from offsite sources and, therefore, would not be a limited resource for the purposes of this *CMRR-NF SEIS*. An estimated 19,200 gallons (73,000 liters) of propane would be used annually during a portion of the construction period (3 to 6 years) for heating purposes. The propane would be procured from offsite sources and, therefore, would not be a limited resource for the purposes of this SEIS (LANL 2011a:Infrastructure, 026).

Primary construction water use would be for concrete, site preparation, and earthwork (for example, grading, compaction, dust control). There would be a temporary effect on the water supply at LANL. During the construction phase, it was estimated that approximately 5 million gallons (19 million liters) of water per year (42 million gallons total [159 million liters]) would be needed. This would be approximately 4 percent of the available (surplus) capacity at LANL. The volume of groundwater that would be used is within the retained water right quantity at LANL, which is figured on an annual use ceiling of 542 million gallons (2,000 million liters). However, the site is currently at a baseline of

76 percent of the available capacity due to other site requirements. With the proposed construction included, the site would be at 76.9 percent of capacity. The ROI, which includes water used by LANL and Los Alamos County, is over 91 percent; with the proposed construction included, the total ROI would be at 91.8 percent of capacity.

Construction Impacts – Shallow Excavation Option—Planned and proposed construction activities (see **Table 4–16**) are expected to have a temporary effect on the electrical power requirements. During the construction phase (about 9 years), [7] the temporary increase in power would be approximately 6 percent of the available (surplus) energy capacity and would not impact the available energy supply to any current or projected uses. The temporary increase in the peak load demand would be approximately 75 percent of the available (surplus) capacity. With planned upgrades and modifications, existing infrastructure would be capable of supporting the construction requirements of the Modified CMRR-NF proposed under this alternative without exceeding site capacities.

No natural gas would be needed for construction of the Modified CMRR-NF. Although gasoline and diesel fuel would be required to operate construction vehicles, generators, and other construction equipment, fuel would be procured from offsite sources and, therefore, would not be a limited resource for the purposes of this SEIS. An estimated 19,200 gallons (73,000 liters) of propane would be used annually during a portion of the construction period (3 to 6 years) for heating purposes. The propane would be procured from offsite sources and, therefore, would not be a limited resource for the purposes of this SEIS (LANL 2011a:Infrastructure, 026).

Table 4–16 Modified CMRR-NF Alternative, Shallow Excavation Option — Site Infrastructure Requirements for Facility Construction

Resource	*Available Site/System Capacity* [a]	*CMRR-NF Project Requirement*	*Percentage of Available Site Capacity*
Electricity			
Energy (megawatt-hours per year)	513,000	31,000	6
Peak load demand (megawatts)	16	12	75
Fuel			
Natural gas (million cubic feet per year)	5,860	Not applicable	Not applicable
Propane (gallons per year) [b]	Not applicable	19,200	Not applicable
Water (million gallons per year)	130	4	3

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; SEIS = supplemental environmental impact statement.

[a] A calculation based on the system-wide (site-wide for water) capacity from data provided in Chapter 3, Table 3–3, of this *CMRR-NF SEIS*.

[b] Use of propane would be limited to the winter months for period of 3 to 6 years.

Note: To convert cubic feet to cubic meters, multiply by 0.028314; gallons to liters by 3.78533.

Source: LANL 2011a:Data Call Tables, 003; Infrastructure, 026.

Similar to the Deep Excavation Option, there would be a temporary effect on the water supply at LANL. During the construction phase (about 9 years), it was estimated that approximately 4 million gallons (15 million liters) of water per year (35 million gallons [130 million liters] total) would be needed. This temporary increase in water use would be approximately 3 percent of the available (surplus) capacity at LANL. The volume of groundwater that would be used is within the retained water right quantity at LANL, which is figured on an annual use ceiling of 542 million gallons (2,000 million liters). However, the site is at a baseline of 76 percent of the available capacity due to other site requirements. With the

[7] *The construction period is the same regardless of the construction option; the additional excavation required for the Deep Excavation Option would occur in parallel with other activities (for example, preparing laydown areas and installing construction utilities) that would occur under both options.*

proposed construction included, the site would be at 76.7 percent of capacity. The ROI, which includes water used by LANL and Los Alamos County, is over 91 percent; with the proposed construction included, the ROI would be at 91.7 percent of capacity.

Operations Impacts—Resources needed to support the projected demands on key site infrastructure resources associated with CMRR Facility operations under the Modified CMRR-NF Alternative are presented in **Table 4–17**. CMRR-NF and RLUOB operations together would require 161,000 megawatt-hours per year, or approximately 31 percent of the available (surplus) energy capacity. The peak electrical demand estimate of 26 megawatts, when combined with the projected site-wide peak demand, would exceed the available (surplus) capacity at the site. The peak load demand assumes all electrical demands are at their peak need at the same time. Actual peak demand for LANL has been below projected levels in the past and well within site capacities (see Chapter 3, Section 3.3.2). Regardless of the decisions to be made regarding the CMRR-NF, adding a third transmission line and/or reconductoring the existing two transmission lines are being studied by LANL to increase transmission line capacities up to 240 megawatts to provide additional capacity across the site.[8] If the proposed TA-50 electrical substation is constructed, it would provide reliable additional electrical power as the independent power feed to the existing TA-55 complex and the CMRR Facility. LANL is also considering establishing an independent power feed to the existing TA-55 complex and the CMRR Facility from TA-3 along existing utility rights-of-way. If additional capacity and reliability can be added to the existing TA-3 substation, this would negate the need to build the proposed TA-50 substation.

Natural gas is used to supply boilers and emergency generators, but is restricted to the utility building attached to RLUOB. The required amount would only use about 1 percent of the available site capacity.

Table 4–17 Modified CMRR-NF Alternative — Site Infrastructure Requirements for Modified CMRR-NF and RLUOB Operations

Resource	*Available Site/System Capacity* [a]	*CMRR Facility Requirement*	*Percentage of Available Site Capacity*
Electricity			
RLUOB energy (megawatt-hours per year)		59,000	
Modified CMRR-NF energy (megawatt-hours per year)		102,000	
Modified CMRR-NF and RLUOB energy (megawatt-hours per year)	*513,000*	*161,000*	*31*
RLUOB peak load demand (megawatts)		11	
Modified CMRR-NF peak load demand (megawatts)		15	
Modified CMRR-NF and RLUOB peak load demand (megawatts)	*16*	*26*	*Exceeds available capacity* [b]
Fuel (million cubic feet per year)			
RLUOB natural gas		38	
Modified CMRR-NF natural gas		20	
Modified CMRR-NF and RLUOB natural gas	*5,860*	*58*	*1.0*
Water (million gallons per year)			
RLUOB water		*7*	
Modified CMRR-NF water		*9*	
Modified CMRR-NF and RLUOB water	*130*	*16*	*12*

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.
[a] A calculation based on the system-wide (site-wide for water) capacity from data provided in Chapter 3, Table 3–3, of this CMRR-NF SEIS.
[b] Actual peak demand for LANL has been below projected levels in the past and well within site capacities.
Note: To convert cubic feet to cubic meters, multiply by 0.028314; gallons to liters by 3.78533.
Source: LANL 2011a:Data Call Tables, 005; Infrastructure, 011, 012, 013.

[8] *Evaluated by NNSA in a 2000 environmental assessment,* Environmental Assessment for Electrical Power Systems Upgrades at Los Alamos National Laboratory *(DOE/EA-1247).*

Under this alternative, water would be needed for building mechanical uses, including a demineralization system, and to meet the potable and sanitary needs of facility support personnel. It was estimated that Modified CMRR-NF and RLUOB operations would require about 16 million gallons (61 million liters) of groundwater per year. During operations, the increase in water would be approximately 12 percent of the available (surplus) capacity at LANL. The volume of groundwater that would be used is within the retained water right quantity at LANL, which is figured on an annual use ceiling of 542 million gallons (2,000 million liters). However, the site is at a baseline of 76 percent of capacity. With the proposed operations included, the site would be at 79 percent of capacity. The ROI, which includes water used by LANL and Los Alamos County, is at over 91 percent; with the proposed Modified CMRR-NF and RLUOB operations included, the ROI would be at 92.4 percent of capacity.

4.3.4 Air Quality and Noise

4.3.4.1 Air Quality

For both of the construction options considered under the Modified CMRR-NF Alternative, air quality emissions were calculated for construction activities, transport of materials to and from the work site, transport of personnel from the proposed parking area in TA-72 to the work site, and production of concrete from the temporary batch plants that would be located on site. A detailed discussion of calculation methods is included in Appendix B. Nonradiological air emissions are discussed for both options. There would be no discernable effect on air quality from the use of propane heaters during construction under either construction option because propane burns clean, with little emissions. No radiological emissions would occur during the construction phase.

Construction permits for nonradiological air emissions would be required. Specifically, emissions from combustion sources and concrete batch plant would require construction permits from the New Mexico Environment Department. In addition, pre-construction approval from EPA would be required for radioactive air emissions, in accordance with 40 CFR Part 60, Subpart H. Due to the LANL site-wide operating permit discussed in Chapter 3, Section 3.4.2, a Prevention of Significant Deterioration permit would not be required. It is expected that the LANL site-wide Title V operating permit would require future modification to incorporate permit requirements for construction of the Modified CMRR-NF.

Construction Impacts – Deep Excavation Option—Construction of the Modified CMRR-NF under the Deep Excavation Option would result in temporary emissions from construction equipment, trucks transporting materials, and employee vehicles. Criteria pollutant concentrations at the boundary of TA-55 due to construction activities and at the LANL boundary due to the transport of people and materials were compared to the New Mexico Ambient Air Quality Standards, which are more stringent than the National Ambient Air Quality Standards (see **Table 4–18**). Construction emissions would not exceed the New Mexico Ambient Air Quality Standards or the National Ambient Air Quality Standards for any of the criteria pollutants. These levels are based on the concentrations expected at the boundary of TA-55 during active construction. Actual criteria pollutant concentrations are expected to be less because emission factors were used to complete modeling of construction and associated activities that tend to overestimate impacts. The model generates concentrations based on assumptions for a worst-case scenario. The public would not be allowed access to this area during construction. Emissions calculated to determine potential impacts on the nearest residents located at the Royal Crest Trailer Park, north of the project site, found pollutant concentrations to be well below the most stringent standards. Criteria pollutant concentrations would not exceed the most stringent standards during construction activities or transport of materials to and from the site. Mitigation actions were not considered in the analysis. Actual concentrations are expected to be less than predicted.

Table 4–18 Modified CMRR-NF Alternative, Deep Excavation Option — Criteria Pollutant Emissions Compared to New Mexico State Standards

Criteria Pollutant	*Averaging Time*	*NMAAQS [a] (parts per million)*	*Calculated Concentration (parts per million)*			
			Construction [b]	*Concrete Batch [c]*	*Materials Transport [d]*	*Personnel Transport [d]*
Carbon monoxide	1 hour	13	0.31	N/A	0.35	<<0.01
	8 hours	8.7	0.22	N/A	0.24	<<0.01
Nitrogen dioxide	Annual	0.05	0.02	N/A	<<0.01	<<0.01
Sulfur dioxide	3 hours	0.5 [e]	0.06	N/A	<<0.01	<<0.01
	24 hours	0.1	0.01	N/A	<<0.01	<<0.01
	Annual	0.02	<<0.01	N/A	<<0.01	<<0.01
PM_{10}	24 hours	150 µg/m³ [e]	15 µg/m³	0.26 µg/m³	20 µg/m³	0.06 µg/m³
Total suspended particulates	24 hours	150 µg/m³	15 µg/m³	0.26 µg/m³	20 µg/m³	0.06 µg/m³
	Annual	60 µg/m³	3.0 µg/m³	0.05 µg/m³	4.0 µg/m³	0.01 µg/m³

<< = much less than; µg/m³ = micrograms per cubic meter; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; N/A = not applicable; NMAAQS = New Mexico Ambient Air Quality Standards; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers.
[a] NMAQB 2010.
[b] Construction emissions were modeled using TA-55 as the total area in which pollutants are distributed.
[c] Concrete batch plant emissions were modeled using the area of TA-63 in which pollutants are distributed.
[d] Emissions from mobile sources were modeled using an area that would encompass the length of road used.
[e] EPA 2010c. There are no NMAAQS for PM_{10}; therefore, NAAQS are used here.

The following corrective actions may be used to decrease construction-related emissions. In addition to standard construction emissions controls, emissions from construction equipment may be mitigated by maintaining the equipment to ensure that the emissions control systems and other components are functioning at peak efficiency. Exposed soil during construction activities is a source of particulate matter (fugitive dust) and may be controlled with routine watering. Application of chemical stabilizers to exposed areas and administrative controls such as planning, scheduling, and the use of special equipment could further reduce emissions.

Radiological releases from construction activities are not expected. As described in Chapter 2, Section 2.5, RLUOB has been constructed and the CMRR-NF site has been excavated down to about 30 feet (9.1 meters) already and no contamination was encountered. Any suspected or known contaminated areas from prior LANL activities would be evaluated to identify procedures for working within those areas and to determine the need to remove site contamination. Contaminated soils would be removed as necessary to protect worker health or the environment before construction was initiated. Any contaminated soil removed would be characterized and disposed of appropriately at LANL or an offsite waste management facility.

Construction Impacts – Shallow Excavation Option—The Shallow Excavation Option for the Modified CMRR-NF would also include construction, production of concrete via temporary batch plants, and the transport of personnel and materials to and from the site. Criteria pollutant emissions under the Shallow Excavation Option are summarized in **Table 4–19**. Annual construction and personnel transport emissions are predicted to be comparable to those under the Deep Excavation Option. Less concrete is needed for this option; thus, less particulate matter emissions from the batch plants are expected. Similar to the Deep

Excavation Option, criteria pollutant concentrations would not exceed the most stringent standards during construction activities and transport of materials to and from the site. Emissions calculated to determine potential impacts on the nearest residents located at the Royal Crest Trailer Park, north of the project site, found pollutant concentrations to be well below the most stringent standards.

Table 4–19 Modified CMRR-NF Alternative, Shallow Excavation Option — Criteria Pollutant Emissions Compared to New Mexico State Standards

Criteria Pollutant	*Averaging Time*	*NMAAQS [a] (parts per million)*	*Calculated Concentration (parts per million)*			
			Construction [b]	*Concrete Batch [c]*	*Materials Transport [d]*	*Personnel Transport [d]*
Carbon monoxide	1 hour	13	0.31	N/A	0.27	<<0.01
	8 hours	8.7	0.22	N/A	0.19	<<0.01
Nitrogen dioxide	Annual	0.05	0.02	N/A	<<0.01	<<0.01
Sulfur dioxide	3 hours	0.5 [e]	0.06	N/A	<<0.01	<<0.01
	24 hours	0.1	0.01	N/A	<<0.01	<<0.01
	Annual	0.02	<<0.01	N/A	<<0.01	<<0.01
PM_{10}	24 hours	150 μg/m[e]	15 μg/m³	0.19 μg/m³	15 μg/m³	0.06 μg/m³
Total suspended particulates	24 hours	150 μg/m³	15 μg/m³	0.19 μg/m³	15 μg/m³	0.06 μg/m³
	Annual	60 μg/m³	3.0 μg/m³	0.04 μg/m³	3.0 μg/m³	0.01 μg/m³

<< = much less than; μg/m³ = micrograms per cubic meter; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; N/A = not applicable; NMAAQS = New Mexico Ambient Air Quality Standards; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers.
[a] NMAQB 2010.
[b] Construction emissions were modeled using TA-55 as the total area in which pollutants are distributed.
[c] Concrete batch plant emissions were modeled using the area of TA-63 in which pollutants are distributed.
[d] Emissions from mobile sources were modeled using an area that would encompass the length of road used.
[e] EPA 2010b. There are no NMAAQS for PM_{10}; therefore, National Ambient Air Quality Standards are used here.

Operations Impacts—Operations impacts from nonradiological emissions under the Modified CMRR-NF Alternative would be from the routine testing of seven emergency backup generators. Radiological emissions would be the same as those estimated under the No Action Alternative (see Section 4.2.4.1). **Table 4–20** summarizes the concentrations of criteria pollutants from operations at the Modified CMRR-NF and RLUOB. The maximum ground-level concentrations that would result from Modified CMRR-NF and RLUOB operations at TA-55 would be below ambient air quality standards.

The proximity of the site to the Bandelier National Monument, a Class I Prevention of Significant Deterioration area, requires more-stringent thresholds to maintain a high level of air quality and visibility. The pollutants of interest are: nitrogen dioxide, sulfur dioxide, and particulate matter in two classes, with an aerodynamic diameter less than or equal to 10 and 2.5 microns. The proposed action would not exceed the allowable Prevention of Significant Deterioration increments for a Class I area established in NMAC 20.2.74.504.

Table 4–20 Modified CMRR-NF Alternative — Nonradiological Air Quality Concentrations at Technical Area 55 Site Boundary – Operations

Criteria Pollutant	*Averaging Time*	*NMAAQS (parts per million)* [a]	*Calculated Concentration (parts per million)* [b]
Carbon monoxide	1 hour	13	0.002
	8 hours	8.7	0.001
Nitrogen dioxide	Annual	0.05	0.000079
Sulfur dioxide	3 hours	0.5 [c]	0.001
	24 hours	0.1	0.00018
	Annual	0.02	0.000035
PM_{10}	24 hours	150 µg/m³	0.031 µg/m³
Total suspended particulates	24 hours	150 µg/m³	0.031 µg/m³
	Annual	60 µg/m³	0.006 µg/m³

µg/m³ = micrograms per cubic meter; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; NMAAQS = New Mexico Ambient Air Quality Standards; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers.

[a] NMAAQS are more stringent than the Federal standards; thus, emissions are compared to the latest NMAAQS consistent with other air quality analyses in this *CMRR-NF SEIS*. All emissions were converted from micrograms per cubic meter, as shown in Table 4–10 of the 2003 *CMRR EIS*, to parts per million using the appropriate corrections for temperature (70 degrees Fahrenheit) and a site elevation of 7,229 feet (2,200 meters), in accordance with New Mexico dispersion modeling guidelines (NMAQB 2010).

[b] The annual concentrations were analyzed at locations to which the public has access: the site boundary and nearby sensitive areas. Short-term concentrations were analyzed at the site boundary and at the fence line of the technical area to which the public has short-term access.

[c] NMAAQS does not have a 3-hour standard; thus, the National Ambient Air Quality Standards are used here.

Source: DOE 2003a.

4.3.4.2 Greenhouse Gas Emissions

Construction Impacts – Deep Excavation Option—Under the Deep Excavation Option, construction of the Modified CMRR-NF at TA-55 would result in temporary greenhouse gas emissions from construction equipment, material transport trucks, personnel commutes, propane heaters used during the winter months, and electricity consumption. Operation of the concrete batch plants would not require natural gas, but would require electricity, which is accounted for in the total electricity use presented in **Table 4–21**.

Emissions of greenhouse gases (see Table 4–21) from these construction activities, excluding electricity use, were estimated to be approximately 12,500 tons (11,300 metric tons) of carbon-dioxide equivalent per year. Compared to the 2008 site-wide greenhouse gas baseline emissions, about 440,000 tons (400,000 metric tons) of carbon-dioxide equivalent per year (LANL 2011a:Greenhouse Gases, 015),[9] there would be a minimal and temporary increase (about 2.8 percent) in greenhouse gases from the construction of the Modified CMRR-NF under the Deep Excavation Option.

[9] *The projected LANL site-wide greenhouse gas emissions associated with the electrical usage corresponding to the operations selected in the 2008* LANL SWEIS *RODs would be 543,000 tons per year.*

Table 4–21 Modified CMRR-NF Alternative, Deep Excavation Option — Construction Emissions of Greenhouse Gases

Emissions Scope	*Activity*	*Emissions (tons per year)*			
		CO_2	*CH_4 CO_2e*	*N_2O CO_2e*	*Total CO_2e*
Scope 1	Propane Use	123	0	0	123
Scope 3 [a]	Sitework/grading	2,500	0	5	2,500
	Construction	2,500	3	40	2,540
	Materials transport	6,000	1	10	6,010
	Personnel commutes	1,250	2	27	1,280
Subtotal		12,400	6	82	12,500
Scope 2 [b]	Electricity Use	20,000	6	86	20,100
Total		32,400	12	168	32,600

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; CO_2 = carbon dioxide; CH_4 CO_2e = methane in carbon-dioxide equivalent; N_2O CO_2e = nitrous oxide in carbon-dioxide equivalent; CO_2e = carbon-dioxide equivalent.

[a] Scope 3 sources include indirect emissions of construction equipment not owned or controlled by LANL.

[b] Scope 2 sources include indirect emissions from the generation of purchased electricity, where the emissions actually occur at sources off site and not at sources owned or controlled by LANL.

Note: Totals may not equal the sum of the contributions due to rounding. To convert tons to metric tons, multiply by 0.90718.

Total greenhouse gases from construction activities, including electricity consumption, would be approximately 32,600 tons (29,600 metric tons) of carbon-dioxide equivalent per year. Greenhouse gas emissions from electricity use during construction of the Modified CMRR-NF Alternative, Deep Excavation Option, would be approximately 4.6 percent of the total site-wide carbon-dioxide-equivalent emissions.

Direct greenhouse gas emissions at LANL are those described as Scope 1. There are no established thresholds for greenhouse gases, but in draft guidance issued February 18, 2010, the CEQ suggested that proposed actions that are reasonably anticipated to cause direct emissions of 27,600 tons (25,000 metric tons) or more of carbon-dioxide equivalent should be evaluated by quantitative and qualitative assessments. This is not a threshold of significance, but an indicator that a quantitative and qualitative assessment may be meaningful to decisionmakers and the public and would require consideration in NEPA documentation. The only direct, or Scope 1, greenhouse gas emissions during construction under the Modified CMRR-NF Alternative, Deep Excavation Option, would be from the use of propane heaters in the winter months. The use of propane would result in emissions of approximately 123 tons (112 metric tons) per year of carbon-dioxide equivalent, which is well below the CEQ suggested level of 27,600 tons (25,000 metric tons) per year set for quantitative and qualitative assessments.

Construction Impacts – Shallow Excavation Option—Under the Shallow Excavation Option, construction at TA-55 would result in temporary greenhouse gas emissions from construction equipment, material transport trucks, personnel commutes, propane heaters used during the winter months, and electricity consumption. Operation of the concrete batch plants would not require natural gas, but would require electricity. Construction and personnel transport emissions annually are similar to the Deep Excavation Option, but with lower emissions from fewer truck trips. Emissions of greenhouse gases (see **Table 4–22**) from these construction activities, excluding electricity consumption, were estimated to be approximately 11,000 tons (10,000 metric tons) of carbon-dioxide equivalent per year.

Total greenhouse gases from construction activities, including electricity consumption, would be approximately 31,100 tons (28,200 metric tons) of carbon-dioxide equivalent per year. The greenhouse gas emissions from electricity use during construction of the Modified CMRR-NF Alternative, Shallow

Excavation Option, are approximately 4.6 percent of the total site-wide carbon-dioxide-equivalent emissions. As with the Deep Excavation Option, the only direct, or Scope 1, greenhouse gas emissions during construction under the Modified CMRR-NF Alternative, Shallow Excavation Option, would be from the use of propane heaters in the winter months. This use of propane would result in approximately 123 tons (112 metric tons) per year of carbon-dioxide equivalent, which is well below the draft CEQ guidance suggested level of 27,600 tons (25,000 metric tons) per year set for quantitative and qualitative assessments.

Table 4–22 Modified CMRR-NF Alternative, Shallow Excavation Option — Construction Emissions of Greenhouse Gases

Emissions Scope	*Activity*	*Emissions (tons per year)*			
		CO_2	*CH_4 CO_2e*	*N_2O CO_2e*	*Total CO_2e*
Scope 1	Propane Use	123	0	0	123
Scope 3 [a]	Sitework/grading	2,500	0	5	2,500
	Construction	2,500	3	40	2,540
	Materials transport	4,600	0	10	4,610
	Personnel commutes	1,200	2	26	1,250
Subtotal		10,900	5	81	11,000
Scope 2 [b]	Electricity use	20,000	6	86	20,100
Total		30,900	11	167	31,100

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; CO_2= carbon dioxide; CH_4 CO_2e = methane in carbon-dioxide equivalent; N_2O CO_2e = nitrous oxide in carbon-dioxide equivalent; CO_2e = carbon-dioxide equivalent.

[a] Scope 3 sources include indirect emissions of construction equipment not owned or controlled by LANL.

[b] Scope 2 sources include indirect emissions from the generation of purchased electricity, where the emissions actually occur at sources off site and not at sources owned or controlled by LANL.

Note: Totals may not equal the sum of the contributions due to rounding. To convert tons to metric tons, multiply by 0.90718.

Operations Impacts—Greenhouse gas emissions during operations of both the CMRR-NF and RLUOB from refrigerants used to cool the building and backup generators are approximately 2,100 tons (1,900 metric tons) per year of carbon-dioxide equivalent. Since there would be no new hires under this alternative, emissions from personnel commutes (Scope 3) already included in the baseline are not included here. Compared to the site-wide greenhouse gas emissions, about 440,000 tons (400,000 metric tons) of carbon-dioxide equivalent per year (LANL 2011a:Greenhouse Gases, 015), there would be a minimal increase (less than 1 percent) in greenhouse gases on site from normal operations of the Modified CMRR-NF and RLUOB.

Direct greenhouse gas emissions at LANL are those described as Scope 1. There are no established thresholds for greenhouse gases, but in draft guidance issued February 18, 2010, the CEQ suggested that proposed actions that are reasonably anticipated to cause direct emissions of 27,600 tons (25,000 metric tons) or more of carbon-dioxide equivalent should be evaluated by quantitative and qualitative assessments. This is not a threshold of significance, but an indicator that a quantitative and qualitative assessment may be meaningful to decisionmakers and the public and would require consideration in NEPA documentation. The only direct (Scope 1) greenhouse gas emissions during operations of the CMRR-NF and RLUOB under the Modified CMRR-NF Alternative would be from backup generators and refrigerants used to cool the building. Together, the Scope 1 emissions during operation of the CMRR-NF and RLUOB under the Modified CMRR-NF Alternative, approximately 2,100 tons (1,900 metric tons), would be below the CEQ suggested level of 27,600 tons (25,000 metric tons) per year set for quantitative and qualitative assessments.

Total greenhouse gases, including both indirect (Scope 2 and 3) and direct (Scope 1) emissions, during operation of the CMRR-NF and RLUOB would be approximately 107,000 tons (97,000 metric tons) of carbon-dioxide equivalent per year (see **Table 4–23**). This is an increase of approximately 25 percent of the total site-wide carbon-dioxide-equivalent emissions per year based on the 2008 baseline inventory for LANL. These greenhouse gases emitted by operations under the Modified CMRR-NF Alternative would add a relatively small increment to emissions of these gases in the United States and the world (see Section 4.6).

Table 4–23 Modified CMRR-NF Alternative — Modified CMRR-NF and RLUOB Operations Emissions of Greenhouse Gases

Emissions Scope	*Activity*	*Emissions (tons per year)*				
		CO_2	*CH_4 CO_2e*	*N_2O CO_2e*	*HFC CO_2e*	*Total CO_2e*
Scope 1 [a]	Refrigerants used	N/A	N/A	N/A	1,860	1,860
	Backup generator	210	2	30	N/A	242
	Subtotal	210	2	30	1,860	2,100
Scope 2 [b]	Electricity use	105,000	30	450	N/A	105,000
	Total	105,000	32	480	1,860	107,000

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; CO_2 = carbon dioxide; CH_4 CO_2e = methane in carbon-dioxide equivalent; N/A = not applicable; N_2O CO_2e = nitrous oxide in carbon-dioxide equivalent; HFC CO_2e = hydrofluorocarbons in carbon-dioxide equivalent; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Scope 1 sources include direct emissions by stationary sources owned or controlled by LANL.

[b] Scope 2 sources include indirect emissions from the generators of purchased electricity, where the emissions actually occur at sources off site and not owned or controlled by LANL.

Note: Totals may not equal the sum of the contributions due to rounding. To convert tons to metric tons, multiply by 0.90718.

4.3.4.3 Noise

Construction noise was evaluated using RCNM [Roadway Construction Noise Model], Version 1.1, the Federal Highway Administration's standard model for the prediction of construction noise (DOT 2006). RCNM has the capability to model types of construction equipment that are expected to be the dominant construction-related noise sources associated with this action. All construction noise analyses were assumed to make use of a standard set of construction equipment. Construction noise impacts are quantified using the 8-hour noise level equivalent ($L_{eq[8]}$) noise metric, as calculated on an average busy working day during construction. The maximum sound level (L_{max}) shows the sound level of the loudest piece of equipment, which is generally the driver of the $L_{eq(8)}$ sound level.

Construction noise was evaluated for one construction site; this evaluation may be applied to each of the sites individually as an assessment of the potential negative effects on sensitive receptors in the vicinity of the construction site. Construction noise was evaluated at 100-foot (30.5-meter) increments from the construction equipment. Noise abatement measures were not considered in this analysis, which provides for a more-conservative analysis. The same types of equipment were assumed to be used on each construction site. At noise levels greater than 65 decibels A-weighted (dBA), the potential for annoyance increases, and at levels above 75 dBA, possible harm to health may occur; thus, noise levels above 65 dBA were used as the significance threshold. **Table 4–24** shows the noise levels expected at receptor distances at 100-foot (30.5-meter) increments and the residential area 0.6 miles (1.0 kilometer) north of TA-55.

Construction Impacts – Deep Excavation Option—On site, all workers potentially exposed to elevated noise associated with their activities would comply with all hearing-protective requirements specified by OSHA. Any other personnel visiting on site also would adhere to the OSHA standards for hearing protection.

Off site, noise experienced on a day-to-day basis depends on the specific activity under way and its proximity to the site edge, where a receptor may be present. Nevertheless, the relatively low time-averaged noise levels calculated indicate that project-related construction activities would not be excessively intrusive.

Table 4–24 Modified CMRR-NF Alternative — Noise Levels During Modified CMRR-NF Construction

Distance from Equipment (feet)	*Maximum Sound Level (L_{max}) [a] dBA*	*Equivalent Sound Level (L_{eq}) [b] dBA*
100	79	81
200	73	75
300	69	72
400	67	69
500	65	67
1000	59	61
Residential area [c]	49	51

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; dBA = decibels A-weighted.
[a] Calculated maximum sound level is the loudest equipment value.
[b] Equivalent sound level is the sound averaged over an 8-hour period.
[c] Residential area located approximately 0.6 miles (1 kilometer) north of TA-55.
Note: To convert feet to meters, multiply by 0.3048.

The areas involving construction are situated within areas already exposed to some form of noise from vehicular highway traffic. Construction noise emanating off site would probably be noticeable in the immediate site vicinity, but is not expected to create adverse impacts. Construction-related noise is intermittent and transitory and would cease at the completion of the project. Construction noise would have no adverse effects on residents with construction noise levels of 51 dBA. No adverse effects of construction noise are expected.

Construction Impacts – Shallow Excavation Option—Noise under the Shallow Excavation Option would be the same as shown under the Deep Excavation Option. This option would be completed in the same amount of time as the Deep Excavation Option; because of the distance to the exposed public, no differences in effects from construction noise are expected.

Operations Impacts—Operations of the Modified CMRR-NF and RLUOB would have noise levels similar to those of existing operations at TA-55. A slight increase in traffic and equipment (such as heating and cooling systems) noise near the area is expected. These noise levels would not cause adverse impacts on wildlife or the public located outside of LANL.

4.3.5 Geology and Soils

Construction Impacts – Deep Excavation Option

Ground Disturbance. Under the Deep Excavation Option, minimal additional land would be disturbed at TA-55. RLUOB has already been constructed adjacent to the proposed Modified CMRR-NF site, and up to 30 feet (9 meters) of the 130-foot (40-meter) excavation required for the Deep Excavation Option of the Modified CMRR-NF has already been completed as part of the geologic evaluation of the site. Additional land disturbance at TA-55 would primarily be associated with installation and construction of infrastructure associated with the Modified CMRR-NF, such as buried utilities and security fence relocation. However, other aspects of the project would result in additional land disturbance (see Section 4.3.2.1).

This construction option requires the excavation of an additional 100 feet (30 meters) of bedrock for construction of the Modified CMRR-NF, as approximately 30 feet (9 meters) of the Modified CMRR-NF excavation has already been completed. Some of the material excavated from TA-55 would be reused as fill for other Modified CMRR-NF infrastructure and construction support-related projects, such as fill for the TA-46/63 and TA-48/55 laydown areas. The remaining amount would be staged at a LANL materials staging area for future reuse on other LANL projects. Reuse of this material at LANL would directly offset the future need to transport purchased fill material from offsite locations, as is currently the case because of the limited amount of suitable fill material available within existing LANL borrow pits.

Although many of the areas to be developed are previously disturbed, the following actions would expose soils to wind and water erosion: removal of vegetation, grading for new laydown areas, and temporary stockpiling of soils adjacent to utility trenches and other infrastructure excavations and in staging areas. See Section 4.3.6 for more information related to erosion impacts. The 2008 *LANL SWEIS* analyzed impacts associated with management of 150,000 cubic yards (115,000 cubic meters) per year of spoils from the Modified CMRR-NF site and other construction projects at LANL (DOE 2008a).

Aggregate Supply. Large tonnages of aggregate would be required to support construction activities at TA-55. Approximately 313,000 tons (284,000 metric tons) of coarse aggregate and 320,000 tons (290,000 metric tons) of fine aggregate (sand) would be required to support all concrete operations, including placement of up to 250,000 cubic yards (227,000 cubic meters) of low-slump concrete fill material in the lower 60 feet (18 meters) of the Modified CMRR-NF excavation.

Additional excavation under the Deep Excavation Option would require the removal of approximately 545,000 cubic yards (417,000 cubic meters) of material. Such material would be suitable for some construction backfill for this project, as well as for construction projects located throughout LANL, but it is unlikely that the characteristics of this material would make it suitable as aggregate for concrete. Similarly, the East Jemez Road Borrow Pit, located in TA-61, which represents good source material for certain construction purposes, is not anticipated to be used as a source for Modified CMRR-NF construction purposes. For purposes of analysis, aggregate for concrete was assumed to come from sources within 100 miles (160 kilometers) of LANL. Aggregate would be procured from existing commercial vendors operating in accordance with all necessary permits. As practical, nearer sources of materials would be used. There are numerous commercial offsite borrow pits and quarries in the vicinity of LANL, including 11 pits or quarries located within 30 miles (48 kilometers) of LANL.

Seismicity. All proposed new facilities would be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards established to protect public and worker health and the environment. DOE Order 420.1B requires that nuclear or nonnuclear facilities be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards, including earthquakes. The order stipulates the natural phenomena hazards mitigation requirements for DOE facilities. DOE Standard 1020-2002 (DOE 2002a) implements DOE Order 420.1B and provides criteria for the design of new structures, systems, and components to ensure that DOE facilities can safely withstand the effects of natural phenomena hazards, such as earthquakes. See Section 4.3.10.2 for an evaluation of the potential radiological impacts of an earthquake.

As discussed in Chapter 3, Section 3.5.4, in 2007, the *Final Report, Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory (Probabilistic Seismic Hazard Analysis)* (LANL 2007a), was issued, which provided a better assessment of the seismic behavior during a design-basis earthquake. The seismic hazard analysis was updated again in 2009 (LANL 2009b). As a result, the hazard assessment for the site of the proposed Modified CMRR-NF has been updated so that these data could be used during facility design to meet DOE orders, requirements, and governing standards.

Based on the updated seismic hazard analysis, the geotechnical properties of the bedrock (the structural stability of the rock) at the proposed Modified CMRR-NF location have been further evaluated with respect to the proposed Modified CMRR-NF structure and associated depth of excavation (Kleinfelder 2010a, 2010b). As discussed in Chapter 3, Section 3.5.2, approximately 700 feet (210 meters) of Bandelier Tuff is present beneath the site. The Modified CMRR-NF excavation would be affected by the uppermost units of this geologic formation, consisting of Units 3 (Qbt3) and 4 (Qbt4) of the Tshirege Member of the Bandelier Tuff (see Chapter 2, Figure 2–7). In comparison to the units above and below, the lower part of Unit 3 ($Qbt3_L$) has lower bearing capacity, is more compressible, has higher porosity, and has less cohesion. These rock properties, coupled with the vertical proximity of Unit 3 to the Modified CMRR-NF foundation grade and its lateral proximity to the slope of Twomile Canyon, have led to potentially significant structural design issues, including the following (Kleinfelder 2010a):

- Potential for static deflection (compression)
- Potential for hydro-collapse, due to wetting
- Potential for excessive movement of buttress, due to dynamic slope instability
- Inadequate resistance to dynamic sliding forces
- Seismic shaking and building response

The geotechnical contractor prepared a draft slope stability analysis that indicated that global slope stability is not an issue for the Deep Excavation Option (LANL 2011a:LANL site, 028). If this construction option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed.

As previously discussed, a 130-foot (40-meter) excavation would be required for the Modified CMRR-NF construction under the Deep Excavation Option. $Qbt3_L$, the poorly welded to nonwelded tuff, occurs from a depth of approximately 75 feet (23 meters) to approximately 125 to 130 feet (38 to 40 meters) below ground surface (Kleinfelder 2010b) (see Chapter 2, Figure 2–7). Therefore, under the Deep Excavation Option, $Qbt3_L$ would be excavated and replaced with concrete fill, as evaluated in the *Phase I Ground Modification Alternatives Feasibility Study, Chemistry and Metallurgy Research Replacement (CMRR) Nuclear Facility, Los Alamos National Laboratory* (Kleinfelder 2010a), and as detailed in the *Work Plan, Excavation Support Design, Chemistry and Metallurgy Research Facility Replacement (CMRR) Project, Los Alamos National Laboratory* (Kleinfelder 2010b). A 10-foot-thick (3-meter-thick) basemat and the Modified CMRR-NF foundation would be constructed directly upon this concrete fill material.

The new structure would be designed and constructed in accordance with the geotechnical analyses and design recommendations provided in the geotechnical reports (Kleinfelder 2007a:46-108, 2010a:23, and 2010b:2-10). These reports have concluded that the substrate is sufficiently strong to withstand the weight of the proposed structure, such that intolerable amounts of seismically and non-seismically induced settlement and lateral shifting of the foundation would not occur. Final geotechnical and structural design calculations would be completed in conjunction with final building design.

To meet the seismic protection design requirements resulting from the *Probabilistic Seismic Hazard Analysis* and other seismic studies (LANL 2005, 2007a, 2008a; Kleinfelder 2010a, 2010b), the Modified CMRR-NF would require large amounts of structural concrete and reinforcing steel for construction of the walls, floors, and roof of the building. These portions of the Modified CMRR-NF would, accordingly, be thicker and heavier than was previously estimated. In addition, most of the worker access areas inside the building would be constructed with solid floors rather than steel grating floors; fire suppression water storage tanks would be located inside the Modified CMRR-NF rather than using existing exterior water storage tanks (the large size and weight of these tanks require additional building structural considerations); various utilities would be installed with added protection measures; and other seismic protection and safety measures would be incorporated into the building design and the installation of equipment.

Volcanism: As discussed in Chapter 3, Section 3.5.1, limited evaluation of volcanic hazards to LANL was undertaken in 2010. The report, *Preliminary LANL Volcanic Hazards Evaluation*, integrated available information on the volcanic history of the region surrounding LANL, and described potential volcanic hazards to LANL from future eruptions in the region (LANL 2010i).

Potential volcanic hazards affecting facilities at TA-55 include ash and pumice falls, mudflows and flooding, seismic activity, lava flows, atmospheric effects (volcanogenic thunderstorms with lightning), and acid rains. The primary hazard to the Modified CMRR-NF would be roof loads of ash and pumice from a silicic eruption and ash and scoria from a basaltic eruption. A related hazard would be mudflows formed by rain containing ashfall and resulting flooding. This possible hazard would be naturally mitigated by the relatively low slopes at TA-55 and the presence of deep canyons that would channel flows from the Jemez Mountains west of Los Alamos. Earthquakes associated with a silicic eruption of this kind could lie in the magnitude 3 to 5 range, based on past eruptions.

Construction Impacts – Shallow Excavation Option

Ground Disturbance. Under the Shallow Excavation Option, additional land would be disturbed at TA-55 beyond that disturbed under the No Action Alternative. RLUOB has already been constructed adjacent to the Modified CMRR-NF site, and up to 30 feet (9 meters) of the 58-foot (18-meter) excavation required for the Shallow Excavation Option of the Modified CMRR-NF has already been completed as part of the geologic evaluation of the site. Excavation of the additional 28 feet (8.5 meters) would require the removal of approximately 236,000 cubic yards (180,000 cubic meters) of material. This material would be managed the same way as discussed under the Deep Excavation Option.

Aggregate Supply. Approximately 120,000 tons (110,000 metric tons) of coarse aggregate and 120,000 tons (110,000 metric tons) of fine aggregate (sand) would be required to support construction under this construction option. Offsite sources of aggregate for concrete would be the same as discussed under the Deep Excavation Option.

Seismicity. As discussed under the Deep Excavation Option, a comprehensive update to the LANL seismic hazard analysis was completed in June 2007 and again in 2009 (LANL 2007a, 2009b). Based on this updated seismic hazard analysis, the geotechnical properties of the bedrock at the proposed Modified CMRR-NF location have been further evaluated with respect to the proposed Modified CMRR-NF structure and associated depth of excavation (Kleinfelder 2007a). Similar to the Deep Excavation Option, the Modified CMRR-NF excavation under the Shallow Excavation Option would be affected by the uppermost units of this geologic formation, consisting of Units 3 (Qbt3) and 4 (Qbt4) of the Tshirege Member of the Bandelier Tuff (see Chapter 2, Figure 2–8). In comparison to the units above and below, the lower part of Unit 3 ($Qbt3_L$) has lower bearing capacity, is more compressible, has higher porosity, and has less cohesion. These rock properties, coupled with its vertical proximity to the Modified CMRR-NF basemat and foundation grade (about 15 feet [4.6 meters] separate $Qbt3_L$ from the proposed foundation) and its lateral proximity to the slope of Twomile Canyon, have led to potentially significant basemat and structural design issues (Kleinfelder 2010a).

Under the Shallow Excavation Option, a 58-foot (18-meter) excavation would be required for the Modified CMRR-NF construction. $Qbt3_L$, the poorly welded to nonwelded tuff, occurs from a depth of approximately 75 feet (23 meters) to approximately 125 to 130 feet (38 to 40 meters) below ground surface (Kleinfelder 2010b) (see Chapter 2, Figure 2–8). Therefore, $Qbt3_L$ would remain in place under this construction option, with about 17 feet (5.2 meters) of vertical separation between $Qbt3_L$ and the 10-foot-thick (3-meter-thick) basemat and foundation. The new structures would be designed and constructed in accordance with geotechnical recommendations provided in the geotechnical report prepared specifically for the Shallow Excavation Option (Kleinfelder 2007a). In addition, the geotechnical report concluded that the 17-foot-thick (5.2-meter-thick) layer of competent material, located below the proposed structure and above $Qbt3_L$, is sufficiently strong to withstand the weight of the proposed structure, such that intolerable amounts of seismically and non-seismically induced settlement and lateral shifting of the foundation would not occur.

The hazards from volcanic eruptions would be the same as those discussed under the Deep Excavation Option.

Operations Impacts—Modified CMRR-NF and RLUOB operations would not impact geologic and soil resources at LANL, as no ground disturbance would occur and no additional geologic resources would be required.

4.3.6 Surface-Water and Groundwater Quality

Water quality impacts are not expected to occur as a result of constructing and operating the Modified CMRR-NF at TA-55. Construction activities could lead to a short-term increase in stormwater runoff, erosion, and/or sedimentation, but potential impacts on surface-water quality would be mitigated through implementation of Stormwater Pollution Prevention Plans (SWPPPs) and their designated controls (best management practices). Groundwater quality impacts are not expected during construction or operations under this alternative.

4.3.6.1 Surface Water

There are no natural surface-water drainages in the vicinity of the proposed Modified CMRR-NF at TA-55, and no surface water would be used to support facility construction. All project areas were reviewed, and it was determined that none would require a New Mexico Section 401 Water Quality Certification or U.S. Army Corps of Engineers 404 Dredge and Fill Permit. During construction, it is expected that portable toilets would be used for construction personnel, resulting in no onsite discharge of sanitary wastewater and no impact on surface waters (DOE 2003b). However, plumbed restrooms made available to construction workers would generate sanitary effluent during the construction period; this effluent would be discharged to sanitary sewer lines for treatment at the Sanitary Wastewater Systems Plant in TA-46, and then piped to TA-3 and discharged to Sandia Canyon via a National Pollutant Discharge Elimination System (NPDES)-permitted outfall (DOE 2008a).

Construction Impacts – Deep Excavation Option—Stormwater runoff from construction activities under the Deep Excavation Option could potentially impact downstream surface-water resources, but would be minimized through stormwater control, implemented as part of an SWPPP, and therefore is not expected to adversely impact downstream surface-water resources. The SWPPP would be prepared, prior to commencement of construction, to implement requirements and guidance from Federal and state regulations under the Clean Water Act, including the NPDES Construction General Permit and Clean Water Act Section 401 and 404 permits. Stormwater management controls, including best management practices for increased stormwater flows and sediment loads, would be included in the construction design specifications (DOE 2008a). To monitor the effectiveness of erosion and sediment control measures, the SWPPP would include a mitigation monitoring program, such as consistent and continual inspection and maintenance, to ensure that an adequate schedule and procedures are in place and implemented.

TA-55 activities are not expected to affect floodplains; TA-55 is not in an area that is prone to flooding, and the nearest 100-year floodplains are located at a distance of approximately 650 feet (200 meters) in Twomile Canyon, 1,900 feet (580 meters) in Mortandad Canyon, and 3,000 feet (910 meters) in Pajarito Canyon, all at much lower elevations.

Construction activities associated with the Modified CMRR-NF and the Pajarito Road right-of-way realignment at TA-50 and TA-55 would not require a New Mexico Section 401 Water Quality Certification or U.S. Army Corps of Engineers 404 Dredge and Fill Permit. However, these construction activities would require an NPDES General Permit for Storm Water Discharge from Construction Activities and an associated SWPPP. If oil, gasoline, diesel fuel, or other petroleum products spill onto the ground, they must be cleaned up, containerized, characterized, and disposed of. Excess materials, such as product debris, equipment, chemicals, waste, concrete, asphalt, and stockpiled soil, are considered wastes and would not be abandoned at the end of the project (NNSA 2010a) (see Section 4.3.12 for discussion of construction waste generation and management). The shifted road segment would be closer to the edge of Twomile Canyon, but would remain on the mesa top and not enter the canyon (LANL 2010d). Potential impacts on surface-water quality due to construction for the Pajarito Road realignment would be minimized through implementation of the SWPPP to control soil erosion in accordance with the NPDES Construction General Permit.

Soil and rock material excavated from the Modified CMRR-NF location would be transported by truck to storage areas within LANL in accordance with routine material reuse practices at the site. Best management practices to control stormwater runoff and minimize erosion and/or sedimentation would be employed to protect surface waters. Management of construction fill is expected to have no effect on surface-water quality. An existing stormwater detention pond would be enlarged at TA-63, and an additional detention pond would be constructed to collect and control runout from the TA-46/63 construction laydown area spanning land across the shared boundary of both technical areas. Another detention pond would be constructed to collect and control runout from the TA-48/55 construction laydown area in TA-64, and two more would be constructed in TA-48 and TA-72 to collect runoff from the parking areas. A smaller detention pond would be constructed in TA-50 to collect and control runoff from the Modified CMRR-NF construction site in TA-55 (LANL 2010d).

An SWPPP would be prepared and implemented for construction of a new, permanent 115-kilovolt electrical substation in TA-50. The new substation, located on approximately 1.4 acres (0.6 hectares), would include construction of a short, unpaved service access road from Pajarito Road to the substation (LANL 2010d). Construction of the 115-kilovolt electrical substation in TA-50 is not expected to negatively impact surface-water quality.

Construction Impacts – Shallow Excavation Option—Implementation of the Shallow Excavation Option is expected to result either in impacts similar to those under the Deep Excavation Option for surface-water quality during construction or reduced impacts because there would be less excavated soil under the Shallow Excavation Option that would need to be controlled for erosion and sedimentation. All of the same stormwater management controls identified under the Deep Excavation Option during construction would be utilized if the Shallow Excavation Option is implemented.

Operations Impacts—No impacts on surface-water quality are expected as a result of Modified CMRR-NF and RLUOB operations under this alternative, including operations at RLUOB. No surface water would be used to support the facility, and there would be no direct discharge of effluent to surface waters during facility operations (LANL 2010d).

The Modified CMRR-NF and RLUOB stormwater control system would be sized to collect and manage flow from both buildings and the surrounding area for up to a 25-year design storm. The system includes design features and best management practices that comply with sustainable design principles, as well as LANL and EPA standards. It would include roof drains, ditches, curbs and gutters, catch basins, manholes, storm sewer pipes, and a stormwater sediment basin or detention pond. The stormwater detention pond (located south of Pajarito Road in TA-50) would control erosion from stormwater runoff by detaining and releasing the storm flow in a controlled manner (LANL 2010d).

4.3.6.2 Groundwater

No impacts on groundwater are anticipated to result from construction and operation of the Modified CMRR-NF and RLUOB.

Construction Impacts – Deep Excavation Option—No onsite discharges that would affect groundwater are planned for construction of the Modified CMRR-NF. Appropriate spill prevention, countermeasures, and control procedures (for example, proper management of hazardous and nonhazardous wastes and materials such as diesel fuel or petroleum, oils, and lubricants from construction equipment) would be utilized to minimize potential releases that could affect groundwater.

Construction Impacts – Shallow Excavation Option—Implementation of the Shallow Excavation Option is expected to result in impacts similar to those under the Deep Excavation Option for groundwater quality during construction.

Operations Impacts—No impacts on groundwater resources (that is, groundwater quality or availability) are anticipated during operations of the Modified CMRR-NF or RLUOB under this alternative. No discharges to the surface or subsurface are planned, and spill prevention, countermeasures, and control procedures would be employed to minimize the probability of, and the potential for, an unplanned release that could infiltrate and affect groundwater (LANL 2010a). (The volume of groundwater required during construction and operations is discussed in Section 4.3.3.)

4.3.7 Ecological Resources

4.3.7.1 Terrestrial Resources

Construction Impacts – Deep Excavation Option—Under the Deep Excavation Option, the affected areas within TA-5, TA-46, TA-48, TA-50, TA-52, TA-55, TA-63, and TA-64 are located on the mesa top and mostly within the ponderosa pine forest vegetation zone; however, areas within TA-36, TA-51, TA-54, and TA-72 are located on mesa tops or canyons at lower elevations to the east and fall within the pinyon-juniper woodland vegetation zone. About 5 acres (2.02 hectares) of undeveloped land, consisting mostly of ponderosa pine forest, would be permanently disturbed by vegetation removal and grading. About 110 – 119 acres (40 – 48 hectares) of undeveloped land, consisting of grasslands, ponderosa pine forest, and pinyon-juniper woodland, would be temporarily disturbed by vegetation removal and grading (see Table 4–14). Pajarito Road realignment, electrical substation, stormwater detention ponds, construction laydown areas, and concrete batch plants are within or adjacent to developed land or have been previously used for material storage and laydown activities (LANL 2010d). Vegetation and habitat would be most impacted by the parking lot located within TA-72; potential spoils storage areas within

TA-51, TA-54, and TA-36; and a construction laydown and support area in TA-5/52. These areas are largely undeveloped and would remove mostly pinyon-juniper woodland. There are several areas of undeveloped land being considered for spoils storage, 30 acres (12.1 hectares) of which would be used on a long-term temporary basis under this construction option. Areas of temporary disturbance would be revegetated using native species following the construction period or, in the case of spoils storage areas, once they are no longer needed (LANL 2010c, 2011a:Data Call Tables, 002).

Where construction would occur on previously developed land, there would be little or no impact on terrestrial resources. Within areas of undeveloped ponderosa pine forest and pinyon-juniper woodland, construction would result in the loss of less-mobile wildlife, such as reptiles and small mammals, and displacement of more-mobile species, such as birds and large mammals. Construction is not expected to impact the movement of wildlife across LANL because the main construction site is located within an area that has been disturbed for many years, adjacent to developed and fenced areas. Other areas needed to support construction are either in built-up areas or are relatively small and would not present a barrier to the movement of animals. No impacts that would violate provisions of the Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act have been identified. The *Migratory Bird Best Management Practices Source Document for Los Alamos National Laboratory* provides site-wide mitigation measures, including timing of forest clearing to avoid the breeding season of migratory birds (June 1 through July 31), which would reduce risks to birds protected under the Migratory Bird Treaty Act at LANL (LANL 2010h). Indirect impacts of construction, such as noise or human disturbance, could also temporarily impact wildlife living adjacent to the construction zone. All work areas would be clearly marked to prevent construction equipment and workers from disturbing adjacent natural habitat.

Construction Impacts – Shallow Excavation Option—Potential impacts under the Shallow Excavation Option on terrestrial resources at LANL are similar to those expected under the Deep Excavation Option, with the exception that less land is required for spoils storage. Only about 10 acres (4 hectares) would be needed for spoils storage compared to 30 acres (12 hectares) under the Deep Excavation Option. The two potentially impacted areas would be 9.1 acres (3.7 hectares) of mostly undeveloped pinyon-juniper woodland within TA-51 and 19.1 acres (7.7 hectares) of mostly ponderosa pine forest within TA-5/52 along both sides of Puye Road. Spoils storage sites would potentially be established in either one or both of these areas. Potential impacts on terrestrial resources would be the same as discussed above under the Deep Excavation Option.

Operations Impacts—Operations at the Modified CMRR-NF and RLUOB would have a minimal impact on terrestrial resources within or adjacent to TA-55. Because wildlife residing in the area has already adjusted to levels of noise and human activity associated with current TA-55 operations, it is unlikely to be adversely affected by similar types of activity associated with Modified CMRR-NF and RLUOB operations (DOE 2003b).

4.3.7.2 Wetlands

Construction and Operations Impacts – Deep Excavation and Shallow Excavation Options—As noted in Chapter 3, Section 3.7.2, there is one wetland located within TA-55, four within TA-48, and nine within TA-36. Under the Modified CMRR-NF Alternative, no wetlands would be present in the areas where Modified CMRR-NF construction would occur, meaning there would be no direct impacts on wetlands. The wetlands within TA-48 and TA-55 are located in Mortandad Canyon, north of the project area, and would not be affected by construction. However, under the Deep Excavation Option, wetlands located in TA-36 could be indirectly affected by possible spoils storage there, with the potential for stormwater runoff and erosion into the Pajarito watershed if TA-36 is selected for spoils storage. A sediment and erosion control plan would be implemented to control stormwater runoff during construction, preventing impacts on the wetlands located farther down Pajarito Canyon. Under the Shallow Excavation Option, there would be no direct or indirect impacts on any LANL wetlands because TA-36 would not be a potential spoils storage area. No impacts on wetlands are expected as a result of Modified CMRR-NF and RLUOB operations under this alternative.

4.3.7.3 Aquatic Resources

Construction and Operations Impacts – Deep Excavation and Shallow Excavation Options—The only aquatic resources present within the potentially impacted areas under the Modified CMRR-NF Alternative are small pools associated with the wetlands. There would be no direct impacts on these resources from the construction of most project elements associated with the Modified CMRR-NF. There could be indirect impacts on aquatic habitat within wetland areas located in TA-36 under the Deep Excavation Option, although, as stated above, a sediment and erosion control plan would be implemented to control stormwater runoff. No impacts on aquatic resources are expected as a result of Modified CMRR-NF and RLUOB operations under this alternative.

4.3.7.4 Threatened and Endangered Species

Construction Impacts – Deep Excavation Option—As noted in Chapter 3, Section 3.7.4, areas of environmental interest for the Mexican spotted owl and the southwestern willow flycatcher have been established at LANL to protect their potential habitat. Portions of TA-55 and other technical areas affected by construction under the Deep Excavation Option include both core and buffer zones for the federally threatened Mexican spotted owl (see **Table 4–25**). Project elements, including Pajarito Road realignment, electrical substation, stormwater detention ponds, construction laydown areas, and concrete batch plants, are within or adjacent to developed land or land that has been previously used for material storage and laydown activities. Therefore, potential habitat that would be removed for these project elements may affect, but is not likely to adversely affect, the Mexican spotted owl. Other areas of concern that would impact undisturbed land include all potential spoils storage areas within TA-36, TA-51, and TA-54; a construction laydown and support area in TA-5/52; and a parking lot in TA-72 (see Section 4.3.2.1). Of these areas, the construction laydown and support area in TA-5/52 would fall within core and buffer zones of a Mexican spotted owl area of environmental interest and could impact up to 9.7 acres (3.9 hectares) of core zone potential habitat and 12.9 acres (5.2 hectares) of buffer zone potential habitat. Although a small portion of potential Mexican spotted owl habitat would be removed, no owls have been observed in any potentially impacted area, according to annual surveys. A spoils storage area within TA-36 would be adjacent to the southwestern willow flycatcher area of environmental interest and would not remove any potential habitat for this species. However, due to possible erosion concerns affecting wetlands in that area, the potential habitat may be affected. No willow flycatchers of the southwestern subspecies have been confirmed on LANL. As stated earlier, a sediment and erosion control plan would be implemented to control stormwater runoff. After biological evaluation, NNSA determined and U.S. Fish and Wildlife Service concurred, that construction may affect, but is not likely to adversely affect, the Mexican spotted owl or the southwestern willow flycatcher (LANL 2011a:Ecological Resources, 019, 020, 021). NNSA maintains an active process of consultation with the U.S. Fish and Wildlife Service in accordance with requirements of the Endangered Species Act. Consultations resulted in concurrence by

USFWS Concurrence Letters in Response to Biological Assessments for the CMRR Facility

- (May 14, 2003) CMR replacement buildings
- (March 9, 2005) Additional buildings and associated parking lots north and south of Pajarito Road
- (February 7, 2006) An electrical substation
- (September 26, 2007) Additional laydown area for spoils storage and staged equipment and construction and operation of a concrete batch plant
- (August 6, 2009) Moving underground utilities to the south side of Pajarito Road
- (May 2, 2011) Additional spoils storage and staging area and new parking and vehicle turnaround area

U.S. Fish and Wildlife Service with NNSA's determination that construction and operation of the CMRR Facility in TA-55, including use of other areas for construction support activities, may affect, but are not likely to adversely affect, either individuals of threatened or endangered species currently listed by the U.S. Fish and Wildlife Service, or their critical habitat at LANL (see Chapter 5, Section 5.7). All project activities have been reviewed for compliance with the *Threatened and Endangered Species Habitat Management Plan for Los Alamos National Laboratory* (LANL 2011c). In accordance with the plan, annual surveys are performed to determine the location of any special status species and to determine whether any additional consultation with U.S. Fish and Wildlife Service is necessary. Additionally, in accordance with the *Sensitive Species Best Management Practices Source Document, Version 1* (LANL 2010j), best management practices would be implemented for project activities to reduce risks to sensitive state-listed species. Any lighting would be directed away from canyons and comply with the New Mexico Night Sky Protection Act, and disturbance and noise would be kept to a minimum (LANL 2010c).

Table 4–25 Modified CMRR-NF Alternative — Deep Excavation Option, Impacted Areas of Environmental Interest for the Mexican Spotted Owl

<table>
<tr><th>Project Element</th><th>Technical Area</th><th>Mexican Spotted Owl Areas of Environmental Interest Impacted</th><th>Potential Impacts</th></tr>
<tr><td>Pajarito Road realignment</td><td>55</td><td>Core and buffer</td><td rowspan="12">Some habitat would be developed.

The National Nuclear Security Administration determined that construction may affect, but is not likely to adversely affect, the Mexican spotted owl due to removal of a small portion of potential habitat.

No owls have been observed in the areas where project activity would occur under this alternative.</td></tr>
<tr><td rowspan="2">Electrical substation, stormwater detention ponds</td><td>50</td><td>Core and buffer</td></tr>
<tr><td>64</td><td>Slightly within buffer</td></tr>
<tr><td rowspan="3">Spoils storage areas</td><td>36</td><td>Buffer</td></tr>
<tr><td>51</td><td>Slightly within buffer</td></tr>
<tr><td>54</td><td>None</td></tr>
<tr><td>Parking lot and associated road improvements</td><td>72</td><td>None</td></tr>
<tr><td>Bus parking lot</td><td>48/55</td><td>Buffer</td></tr>
<tr><td>Power upgrades</td><td>55 through 50, 63, and 52 to 5</td><td>Core and buffer</td></tr>
<tr><td rowspan="2">Construction laydown/concrete batch plant</td><td>46/63</td><td>Buffer and slightly within core</td></tr>
<tr><td>48/55</td><td>Buffer</td></tr>
<tr><td>Construction laydown and support area</td><td>5/52</td><td>Core and buffer</td></tr>
</table>

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.
Source: LANL 2011a:Data Call Tables, 002.

Construction Impacts – Shallow Excavation Option—Potential impacts on threatened and endangered species at LANL under the Shallow Excavation Option are similar to those under the Deep Excavation Option, with the exception that only about 10 acres (4 hectares) of spoils storage would be needed from two areas proposed for spoils storage (TA-51 and TA-5/52).

Operations Impacts— Modified CMRR-NF and RLUOB operations would not directly affect any endangered, threatened, or special status species within or adjacent to TA-55. Noise levels associated with the new facility would be low, and human disturbance would be similar to that which already occurs within TA-55. Nighttime lighting could indirectly affect prey species activities; however, any lighting would meet requirements under the New Mexico Night Sky Protection Act. These effects are not likely to adversely affect the Mexican spotted owl potential habitat areas.

4.3.8 Cultural and Paleontological Resources

Construction Impacts – Deep Excavation Option—Construction of the Modified CMRR-NF under the Deep Excavation Option encompasses numerous project elements that would involve both temporary and permanent facilities. These new facilities would have the potential to impact cultural resources within a number of the affected technical areas. **Table 4–26** lists the various project elements and the technical areas in which they would occur. Also presented are the total acreage involved, whether the action would be temporary or permanent, the number of NRHP-listed and -eligible sites within each technical area that could potentially be affected, and whether any eligible sites would be impacted.

Table 4–26 Modified CMRR-NF Alternative — Cultural Resources Impacts

Project Element	*Technical Area*	*Acreage*	*Status*	*NRHP-Listed and -Eligible Sites in Project Element Vicinity*	*Potential Conflict Between Project Element and NRHP-Listed and -Eligible Sites*
Pajarito Road realignment	55	3.4	P	One rock shelter	No effect through avoidance.
Electrical substation	50	1.4	P	None	
Stormwater detention ponds	50	0.5	P	None	
	64	1	P	None	
Spoils storage areas	36	24.7	T	Three 1- to 3-room structures; two pueblo roomblocks; five complex pueblos; one lithic scatter; and one artifact scatter	No effect through avoidance.
	36	14.4	T	None	
	51	9.1	T	One cavate; two 1- to 3-room structures; and one lithic scatter	No effect through avoidance.
	54	18.6	T	Two 1- to 3-room structures; and two pueblo roomblocks	No effect through avoidance.
Parking lot and associated road improvements	72	13-15	T	Two lithic scatters and rock ring	No effect through avoidance. Northern third of Mortandad Trail would be impacted.
Bus parking lot	48/55	3	T	None	
Power upgrades	55 through 59 to 63	25.2	T/P	None	
	5/52	2	T/P	One 1- to 3-room structure in TA-5	No effect through avoidance.
Construction laydown/concrete batch plant	46/63	40	T	One 1- to 3-room structure and one pueblo roomblock in TA-46	No effect through avoidance.
	48/55	20	T	One 1- to 3-room structure in TA-48	No effect through avoidance.
Construction laydown and support area [a]	5/52	19.1	T	One 1- to 3-room structure in TA-5; two cavates and one rock shelter in TA-52	No effect through avoidance.

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; NRHP = National Register of Historic Places; P = permanent; T = temporary; TA = technical area.

[a] Construction support could include potential use of a portion of the area for spoils storage.

Note: To convert acres to hectares, multiply by 0.40469.

Nine affected technical areas contain NRHP-listed or -eligible sites in the vicinity of project activities (see Table 4–26). In all cases, there would be no effect through avoidance. Under the procedures for compliance with *A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico* (*Cultural Resources Management Plan*) (LANL 2006a), sites would be clearly marked and fenced, as appropriate, to avoid direct or indirect disturbance by construction equipment and workers. Further, construction activities would be monitored to ensure that the sites remain undisturbed. If buried cultural deposits are encountered during construction, activities would cease until their significance is determined and procedures are implemented in accordance with the *Cultural Resources Management Plan*. In addition, if project plans should change such that impacts become unavoidable, LANL would consult with the New Mexico State Historic Preservation Office in accordance with Section 106 of the National Historic Preservation Act of 1966 prior to any ground disturbance taking place.

In the case of TA-72, the northern third of the Mortandad Trail leading to the Mortandad Cave Kiva would be directly impacted or cut by construction of the parking lot. Access to this trail, and hence Mortandad Cave Kiva, is limited to organized tours. The project would work with LANL cultural resources personnel to re-establish the affected portion of the trail and thus maintain continued limited access to the Mortandad Cave Kiva. However, to help control unauthorized visitation, the parking lot design would incorporate fencing around its perimeter to prevent direct access to the trail.

With respect to traditional cultural properties, it is anticipated that there would be no effect through avoidance. As is the case with other cultural resources, DOE would comply with Section 106 of the National Historic Preservation Act of 1966 should project plans change. Further, DOE would respect the needs of the pueblos during the construction period with regard to times when members might want to participate in ceremonies and rituals (see Chapter 3, Section 3.8.3). There are no known paleontological resources present at TA-55 at LANL. Thus, there would be no impacts on these resources.

Construction Impacts – Shallow Excavation Option—Construction of the Modified CMRR-NF under the Shallow Excavation Option would entail the same project elements noted above for the Deep Excavation Option. However, as only 10 acres (4 hectares) would be required for spoils storage, only TA-5/52 and TA-51 would be considered for this purpose. While NRHP-listed or -eligible sites are found in the vicinity of both spoils storage areas, none are located within either of the areas proposed for spoils storage. Thus, there would be no impact on cultural resources from this element of the project.

Operations Impacts—Operation of the Modified CMRR-NF and RLUOB would not directly impact cultural or paleontological resources. Nevertheless, cultural resources would continue to be periodically monitored, and the fencing would be maintained, as appropriate, to ensure that they remain undisturbed. Impacts on the Mortandad Trail are described above.

4.3.9 Socioeconomics

Construction Impacts – Deep Excavation Option—Construction of the Modified CMRR-NF under the Deep Excavation Option would require a peak construction employment level of about 790 workers (LANL 2011a:Data Call Tables, 002). This level of employment would generate about 450 indirect jobs in the region around LANL. The potential total peak employment of 1,240 direct and indirect jobs represents an increase in the ROI workforce of approximately 0.8 percent. Direct construction employment would average 420 workers annually over this time, approximately half of the estimated peak employment. The average direct construction employment would result in about 240 indirect jobs in the region around LANL. This total of 660 direct and indirect jobs represents an approximate 0.4 percent increase in the ROI workforce. These small increases would have little or no noticeable impact on the socioeconomic conditions of the ROI.

Construction Impacts – Shallow Excavation Option—The impacts under the Shallow Excavation Option from construction of the Modified CMRR-NF would be similar to the Deep Excavation Option. The peak employment number of about 790 construction workers would be the same as under the Deep Excavation Option, and the annual average would be 410 workers over the life of the project. The average direct construction employment would result in about 240 indirect jobs in the region around LANL. This total of 650 direct and indirect jobs represents an approximate 0.4 percent increase in the ROI workforce. Therefore, there would be little or no noticeable impact on the socioeconomic conditions of the ROI.

Operations Impacts—Operations at the Modified CMRR-NF and RLUOB would require a workforce of approximately 550 workers, including workers that would come from other locations at LANL to use the Modified CMRR-NF laboratory capabilities. The number of workers in support of Modified CMRR-NF operations would cause no change to socioeconomic conditions in the LANL four-county ROI. Workers assigned to the Modified CMRR-NF and RLUOB would be drawn from existing LANL facilities, including the CMR Building. The number of LANL employees supporting the Modified CMRR-NF and RLUOB operations would represent only a small fraction of the LANL workforce (approximately 13,500 in 2010) and an even smaller fraction of the regional workforce (approximately 165,000 in 2010).

4.3.10 Human Health Impacts

4.3.10.1 Normal Operations

No radiological risks would be incurred by members of the public from construction activities associated with the Modified CMRR-NF. Construction workers would be at a small risk for construction-related accidents and radiological exposures. They could receive doses above natural background radiation levels from exposure to radiation from other past or present activities at the site. However, these workers would be protected through appropriate training, monitoring, and management controls. Their exposure would be limited to ensure that doses are kept as low as is reasonably achievable.

As stated in Chapter 3, Section 3.11.3, there have been no work-related accident fatalities at LANL for over 10 years. Review of the statistics on injury and illness data for DOE construction contractors from 2003 through March of 2010 identified no injuries resulting in death in over 160 million worker hours. Therefore, to estimate the potential for any fatalities during construction, the DOE-contractor average fatality rate of 0.0008 per 200,000 hours worked was used (DOE 2011a).

Construction Impacts – Deep Excavation Option—Under the Deep Excavation Option, construction of the Modified CMRR-NF would require a peak employment level of 790 workers and an average of 420 workers over the approximate 9-year construction period. Using this level of employment and the TRC and DART rates from LANL and DOE, there would be about 95 TRCs of occupational injury and illness and about 47 DART cases. During the same period, an estimated 0 (0.03) work-related fatalities would occur under the Deep Excavation Option from construction activities.

Construction Impacts – Shallow Excavation Option—Consistent with the Deep Excavation Option, construction of the Modified CMRR-NF under the Shallow Excavation Option would require a peak employment level of 790 workers, but an average of 410 workers over an approximate 9-year construction period. Using this level of employment and using the TRC and DART rates from LANL and DOE, there would be about 92 TRCs of occupational injury and illness and about 45 DART cases. During the same period, an estimated 0 (0.03) work-related fatalities would occur under the Shallow Excavation Option from construction activities.

Operations Impacts—Normal operations of the Modified CMRR-NF and RLUOB at TA-55 are not expected to result in an increase in LCFs among the general public. Under this alternative, the radiological releases to the atmosphere from the Modified CMRR-NF and RLUOB at TA-55 would be similar to those estimated in the *CMRR EIS* and provided in **Table 4–27**. The actinide emissions listed in this table are in the form of plutonium, uranium, thorium, and americium isotopes. In estimating the human health impacts, all actinide emissions were considered to be plutonium-239. This is conservative because the human health impacts on a per-curie basis are greater for plutonium-239 than for the other actinides associated with activities at the Modified CMRR-NF. Liquid radiological effluents would be routed through an existing pipeline to the TA-50 RLWTF, where they would be treated along with other LANL radioactive liquid wastes. The treatment residues would be solidified and disposed of as radioactive waste.

Table 4–27 Modified CMRR-NF Alternative — Modified CMRR-NF and RLUOB Radiological Emissions During Normal Operations

Nuclide	*Emissions (curies per year)*
Actinides	0.00076
Krypton-85	100
Xenon-131m	45
Xenon-133	1,500
Hydrogen-3 (tritium) [a]	1,000

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] The tritium release is in the form of both tritium oxide (750 curies) and elemental tritium (250 curies). Tritium oxide is more readily absorbed by the body and, therefore, the health impact of tritium oxide on a receptor is greater than that for elemental tritium. Therefore, all of the tritium release has been conservatively modeled as if it were tritium oxide.

Source: DOE 2003b.

Table 4–28 shows the annual collective dose to the population projected to be living within a 50-mile (80-kilometer) radius of TA-55 in 2030. The *CMRR EIS* provided estimates of annual collective doses to the general population and an MEI from radioactive releases during normal operations. Appendix B of the *CMRR EIS* documented the methodology and assumptions used in estimating the population and MEI doses. These doses were calculated using the Generalized Environmental Radiation Dosimetry Software System – Hanford Dosimetry System (GENII) Version 1.485 computer program (Napier et al. 1988), which used dose conversion factors from Federal Guidance Report No. 11 and No. 12 (EPA 1988 and 1993a). The population dose in the *CMRR EIS* was based on the estimated population surrounding TA-55 in 2000. In this *CMRR-NF SEIS*, the estimated population dose centered at TA-55 is based on the 2030 projected population estimate of about 511,000. In addition, in this SEIS, a revised version of the computer program, GENII Version 2 (PNNL 2007), was used, along with updated dose conversion factors. GENII Version 1.485 overestimated the projected dose by not depleting the radioactive cloud as particles settled during its travel downwind. GENII Version 2 does account for depletion, so even though a larger population was used in the current analysis, the new dose estimates are smaller than those provided in the *CMRR EIS* for the same released quantities of radioactive emissions. In addition, the use of revised dose conversion factors for inhalation from Federal Guidance Report No. 13, which are derived from models based on current understanding of the biological behavior of radionuclides in the body and models representing the U.S. population, resulted in lower estimated doses.

Doses were estimated for the general public living within 50 miles (80 kilometers) of the Modified CMRR-NF at TA-55, an average member of the public, and an offsite MEI (a hypothetical member of the public residing at the LANL site boundary who receives the maximum dose). The dose pathways for these receptors include inhalation, ingestion, and direct exposure from immersion in the passing plume and from materials deposited on the ground. To put the doses into perspective, they are compared to doses from natural background radiation[10] levels.

Table 4–28 Modified CMRR-NF Alternative — Annual Radiological Impacts of Modified CMRR-NF and RLUOB Operations on the Public

	Maximally Exposed Individual	***Population Within 50 Miles (80 kilometers)***	***Average Individual Within 50 Miles (80 kilometers)***
Dose	0.31 millirem	1.8 person-rem	0.0035 millirem
Cancer fatality risk [a]	2×10^{-7}	1×10^{-3}	2×10^{-9}
Regulatory dose limit [b]	10 millirem	Not applicable	10 millirem
Dose as a percentage of the regulatory limit	3.1	Not applicable	0.03
Dose from natural background radiation [c]	480 millirem	250,000 person-rem	480 millirem
Dose as a percentage of background dose	0.041	0.0007	0.0007

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Based on a risk estimate of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).

[b] 40 CFR Part 61, Subpart H, establishes an annual limit of 10 millirem via the air pathway to any member of the public from DOE operations. There is no standard for a population dose.

[c] The annual individual dose from background radiation at LANL is 480 millirem (see source of natural background radiation in Chapter 3, Section 3.11.1). The 2030 population living within 50 miles (80 kilometers) of TA-55 was estimated to be about 511,000.

Table 4–28 shows the estimated population dose associated with Modified CMRR-NF operations to be 1.8 person-rem. This population dose would increase the annual risk of a latent fatal cancer in the population by 1×10^{-3}. Another way of stating this is that the likelihood that one fatal cancer would occur in the population as a result of radiological releases associated with this alternative is about 1 chance in 1,000 per year. Statistically, LCFs are not expected to occur in the population from Modified CMRR-NF operations at TA-55.

The average annual dose to an individual in the population would be 0.0035 millirem under this alternative. The corresponding increased risk of an individual developing a latent fatal cancer from receiving the average dose would be 2×10^{-9}, or about 1 chance in 500 million per year.

The MEI would receive an estimated annual dose of 0.31 millirem. This dose corresponds to an increased annual risk of developing a latent fatal cancer of about 2×10^{-7}. In other words, the likelihood that the MEI would develop a fatal cancer is about 1 chance in 5 million for each year of operations.

Estimated annual doses to workers involved with Modified CMRR-NF and RLUOB operations under this alternative are provided in **Table 4–29**. The average annual worker dose for workers involved in Modified CMRR-NF and RLUOB activities was estimated to be about 140 millirem per radiation worker for Modified CMRR-NF activities and 20 millirem per radiation worker for RLUOB activities (LANL 2011a:Data Call Tables, 004, 005). Therefore, a weighted average of about 109 millirem has been used as the estimate of the average annual worker dose per year of operations at the Modified CMRR-NF and RLUOB at TA-55.

[10] *The term natural background radiation is used to mean the natural radiation in the environment that the population cannot avoid. It includes a small component of manmade radiation from past nuclear weapons testing.*

The average annual worker dose of about 109 millirem is well below the DOE worker dose limit of 5 rem (5,000 millirem) (10 CFR Part 835) and is significantly less than the recommended Administrative Control Level of 500 millirem (DOE 1999b). This average annual dose corresponds to an increased risk of a fatal cancer of 7×10^{-5} for each year of operations. In other words, the likelihood that a worker at the Modified CMRR-NF would develop a fatal cancer from annual work-related exposure is about 1 chance in 14,000.

Table 4–29 Modified CMRR-NF Alternative — Annual Radiological Impacts of Modified CMRR-NF and RLUOB Operations on Workers

	Individual Worker	*Worker Population* [a]
RLUOB dose/fatal cancer risk [b, c]	20 millirem/1×10^{-5}	2.8 person-rem/2×10^{-3}
Modified CMRR-NF dose/fatal cancer risk [b, c]	140 millirem/8×10^{-5}	57.4 person-rem/3×10^{-2}
Total	Not applicable	60 person-rem/4×10^{-2}
Dose limit [d]	5,000 millirem	Not available
Administrative control level [e]	500 millirem	Not available

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL – Los Alamos National Laboratory; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Based on a radiation worker population of 140 for RLUOB and 410 for the Modified CMRR-NF at TA-55. Dose limits and administrative control levels do not exist for worker populations.

[b] Based on the average dose to LANL workers who received a measurable dose in the period from 2007 to 2009 and specific activities associated with the Modified CMRR-NF (LANL 2011a:Data Call Tables, 004, 005). A program to reduce doses to as low as is reasonably achievable would be employed to reduce doses to the extent practicable.

[c] Based on a worker risk estimate of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).

[d] 10 CFR 835.202.

[e] DOE 1999b.

Based on a worker population of 550 combined in the Modified CMRR-NF and RLUOB, the estimated annual worker population dose would be 60 person-rem. This would increase the likelihood of a fatal cancer within the worker population by about 4×10^{-2} per year. In other words, on an annual basis, there is less than 1 chance in 25 of one fatal cancer developing in the entire worker population as a result of exposures associated with activities under this alternative.

Occupational injury and illness rates under the Modified CMRR-NF Alternative are projected to follow mostly the patterns observed at LANL sites from 1999 through 2008, as discussed in Chapter 3, Section 3.11, and documented in the *LANL SWEIS* (DOE 2008a). The average injury and illness rates at LANL during this period were 2.40 total recordable cases (TRCs) and 1.18 days away, restricted, or transferred (DART) cases (when workers missed days, their activities were restricted, or they were transferred due to an occupational injury or illness) for every 200,000 hours worked (see Chapter 3, Section 3.11). Using these average TRC and DART case rates, it is expected that the workers would experience about 14 TRCs and about 7 DART cases, annually. Comparably, the average rates at DOE facilities are projected to result in 1.6 TRCs and 0.7 DART cases, based on the accident cases from 2004 through 2008 (DOE 2011a). Both of these sets of rates are well below industry averages, which in 2009 were 3.6 TRCs and 1.8 DART cases (BLS 2010a).

Hazardous Chemicals Impacts

No chemical-related health impacts on the public would be associated with the Modified CMRR-NF and RLUOB operations. As stated in the 2008 *LANL SWEIS*, the laboratory quantities of chemicals that could be released to the atmosphere during normal operations are minor quantities and would be below the screening levels used to determine the need for additional analysis. Workers would be protected from adverse effects from the use of hazardous chemicals by adherence to OSHA and EPA occupational standards that limit concentrations of potentially hazardous chemicals.

4.3.10.2 Facility Accidents

The Modified CMRR-NF would include safety features that would reduce the risks of accidents described under the No Action Alternative (2004 CMRR-NF). From an accident perspective, the proposed Modified CMRR-NF built under either construction option would be designed to meet the Performance Category 3 seismic requirements and would have a full confinement system that includes tiered pressure zone ventilation and HEPA filters.

Radiological Impacts

Appendix C of this *CMRR-NF SEIS* provides the methodology and assumptions used in developing facility accident scenarios and estimating doses to the general public within 50 miles (80 kilometers), the offsite MEI, and an onsite worker near the facility. Hazards from volcanic eruptions were reviewed in addition to other possible accidents. Two of the four accidents analyzed for the 2004 CMRR-NF, as described in Section 4.2.10.2, were modified to account for the design changes needed to ensure the Modified CMRR-NF would survive a design-basis earthquake (see Appendix C). The revised seismic accidents would result in lower released quantities of radioactive material because the Modified CMRR-NF would be designed to survive a design-basis earthquake accident; thus, releases from the Modified CMRR-NF due to such an earthquake would be mitigated, whereas the 2004 CMRR-NF would likely fail in the event of such an earthquake. The Modified CMRR-NF would be a much stronger and more seismically resistant structure compared to the 2004 CMRR-NF.

Tables 4–30 and **4–31** provide the accident consequences and risks for the Modified CMRR-NF. Table 4–30 presents the frequencies and consequences of the postulated set of accidents for a noninvolved worker at the technical area boundary (TA-55), a distance of 240 yards (220 meters), the offsite MEI at the nearest public location (0.75 miles [1.2 kilometers] north-northeast of TA-55), and the general population living within 50 miles (80 kilometers) of the facility. Table 4–31 presents the accident risks, obtained by multiplying each accident's consequences by the likelihood (frequency per year) that the accident would occur.

The accident with the highest potential risk to the MEI (see Table 4–31) would be a loading-dock spill/fire caused by mishandling material or an equipment failure (safety-basis scenario). This accident would present an annual risk of an LCF to the offsite MEI of 2×10^{-7}. In other words, the offsite MEI's likelihood of developing a latent fatal cancer from this event is about 1 chance in 5,000,000 per year. The accident with the highest potential risk to the offsite population would be a seismically induced spill of radioactive materials followed by a fire (safety-basis scenario). The seismically induced spill followed by a fire scenario has been changed from that included in the *Draft CMRR-NF SEIS* for the CMRR-NF. In this *Final CMRR-NF SEIS*, this accident assumes that the earthquake initiates a radioactive material spill that is followed shortly thereafter by a fire, instead of both accidents occurring simultaneously. This accident would present an increased risk of a single LCF in the entire population by 5×10^{-5} per year; in other words, the likelihood of one fatal cancer in the entire population from this event would be about 1 chance in 20,000 per year. Statistically, LCFs are not expected to occur in the population. The maximum risk of an LCF to a noninvolved worker would also be from a seismically induced spill and fire (safety-basis scenario); the risk would be 7×10^{-6}, or about 1 chance in 143,000 per year.

Table 4–30 Modified CMRR-NF Alternative — Accident Frequency and Consequences

Accident	*Frequency (per year)*	*Maximally Exposed Individual*		*Offsite Population* [a]		*Noninvolved Worker at TA Boundary*	
		Dose (rem)	*Latent Cancer Fatality* [b]	*Dose (person-rem)*	*Latent Cancer Fatalities* [c]	*Dose (rem)*	*Latent Cancer Fatality* [b]
Safety-Basis Scenarios							
Facility-wide fire	0.0001	1.1	0.0007	700	0 (0.4)	5.9	0.004
Seismically induced spill with mitigation	0.0001	1.5	0.0009	350	0 (0.2)	51	0.06
Seismically induced spill and fire with mitigation [d]	0.0001	2.1	0.001	820	0 (0.5)	54	0.07
Loading-dock spill/fire	0.01	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006
SEIS Scenarios							
Facility-wide fire	0.000001	0.011	0.000007	7.1	0 (0.004)	0.059	0.00004
Seismically induced spill with mitigation	0.0001	0.3	0.0002	71	0 (0.04)	10	0.006
Seismically induced spill and fire with mitigation [d]	0.00001	0.32	0.0002	83	0 (0.05)	10	0.006
Loading-dock spill/fire	0.0001	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; SEIS = supplemental environmental impact statement; TA = technical area.

[a] Based on a projected 2030 population estimate of about 511,000 persons residing within 50 miles (80 kilometers) of TA-55.

[b] Increased likelihood of an LCF for an individual if the accident occurs.

[c] Increased number of LCFs for the offsite population if the accident occurs (results rounded to 1 significant figure). When the reported value is zero, the result calculated by multiplying the collective dose to the population by the risk factor (0.0006 LCFs per person-rem) is shown in parentheses.

[d] In the seismically induced spill and fire accident, two sequential events are considered; first, the seismic spill occurs, then releases of material outside the building occur due to the fire.

Table 4–31 Modified CMRR-NF Alternative — Annual Accident Risks

Accident	*Risk of Latent Cancer Fatality*		
	Maximally Exposed Individual [a]	*Offsite Population* [b, c]	*Noninvolved Worker at TA Boundary* [a]
Safety-Basis Scenarios			
Facility-wide fire	7×10^{-8}	4×10^{-5}	4×10^{-7}
Seismically induced spill with mitigation	9×10^{-8}	2×10^{-5}	6×10^{-6}
Seismically induced spill and fire with mitigation [d]	1×10^{-7}	5×10^{-5}	7×10^{-6}
Loading-dock spill/fire	2×10^{-7}	4×10^{-5}	6×10^{-6}
SEIS Scenarios			
Facility-wide fire	7×10^{-12}	4×10^{-9}	4×10^{-11}
Seismically induced spill with mitigation	2×10^{-8}	4×10^{-6}	6×10^{-7}
Seismically induced spill and fire with mitigation [d]	2×10^{-9}	5×10^{-7}	6×10^{-8}
Loading-dock spill/fire	2×10^{-9}	4×10^{-7}	6×10^{-8}

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; SEIS = supplemental environmental impact statement; TA = technical area.

[a] Increased risk of an LCF to the individual.

[b] Increased risk of an LCF in the offsite population.

[c] Based on a projected 2030 population estimate of about 511,000 persons residing within 50 miles (80 kilometers) of TA-55.

[d] In the seismically induced spill and fire accident, two sequential events are considered; first, the seismic spill occurs, then releases of material outside the building occur due to the fire.

Land contamination—A severe seismic event that results in the failure of building containment also has the potential to release sufficient quantities of plutonium that could lead to land contamination near the facility. Even for the severe earthquakes that result in major damage to the building structure and failure of confinement systems, there should not be large energy sources to drive the materials that would typically be used in the proposed CMRR-NF, such as plutonium metal and oxides, out of the damaged building and rubble. Seismic collapse scenarios that result primarily in spills could release plutonium materials through the rubble, but that material would not generally go far from the building site. Seismic collapse scenarios that involve large fires have the potential to loft materials such that transport of radioactive materials downwind might result in land contamination at levels that could require monitoring or additional actions.

The Modified CMRR-NF Alternative SEIS scenarios involving a seismically induced spill or a seismically induced spill and fire were modeled to evaluate the potential extent of land that might be contaminated above a screening level of 0.2 microcuries per square meter.[11] Estimates of land area that might be contaminated are highly dependent on specific accident source terms and metrological modeling assumptions. This is because the amount of radioactive material that may accumulate on the ground is highly dependent on the size of the particles that get through the building rubble and are released to the environment (which determines how fast they settle back to the ground), specific accident conditions (for example, presence of a fire), and specific meteorological conditions at the time of the earthquake (for example, high winds). In general, unless there is a fire that can effectively loft the plutonium particles into the air, most of the particles would return to the ground within a few hundred meters of the building location. In the event of a seismically induced spill followed by a large fire at the Modified CMRR-NF, no land outside of TA-55 is projected to be contaminated above the screening level.

Areas contaminated above a specified screening level (for example, 0.2 microcuries per square meter) would require further action, such as radiation surveys or cleanup. Costs associated with radiation surveys, cleanup, and continued monitoring could vary widely depending upon the characteristics of the contaminated area and could range in the hundreds of million dollars per square kilometer for land decontamination (NASA 2006). In addition to the potential direct costs, there are potential secondary societal costs associated with the mitigation from such high-consequence accidents. Those costs could include, but may not be limited to, the following:

- Temporary or longer-term relocation of residents
- Temporary or longer-term loss of employment
- Destruction or quarantine of agricultural products
- Land-use restrictions (which could affect real estate values, businesses, and recreational activities)
- Public health effects and medical care

Dose Impacts from Common Failure Mode Seismic Event—If a severe earthquake were to occur in the Los Alamos area, individuals close to and downwind from TA-55 might receive exposure from radioactive material releases at the existing TA-55 Plutonium Facility, as well as from the proposed Modified CMRR-NF, if it were built. The TA-55 Plutonium Facility was originally designed to a lower seismic standard, but is in the process of being upgraded to withstand higher seismic loadings. In the *LANL*

[11] *This* CMRR-NF SEIS *uses a plutonium areal concentration of 0.2 microcuries per square meter as a screening level for determining the lateral extent of contamination that might require cleanup actions (Chanin 1996). This screening level was first proposed by EPA in the late 1970s but never formally adopted. It has been used in many environmental impact statements as a screening level to indicate land areas that would or would not likely require remedial actions.*

SWEIS, a site-wide seismic event that corresponded to approximately a PC-3 earthquake[12] resulted in estimated doses from the Plutonium Facility (TA-55-4), the Storage Facility (TA-55-185), and the Safe, Secure Transport Facility (TA-55-355) of 160 rem to the MEI and 14,880 person-rem to the population residing within 50 miles (80 kilometers) of TA-55. About 150 rem of the dose to the MEI was estimated to be from the TA-55 Plutonium Facility, the remaining 10 rem was from the other two facilities.

By the time the proposed Modified CMRR-NF would be operational, seismic upgrades to the TA-55 Plutonium Facility should be complete, and the facility is expected to be able to survive the current design-basis earthquake with limited releases. Both the Modified CMRR-NF and the upgraded TA-55 Plutonium Facility would have multi-layered defenses to limit releases from storage containers, gloveboxes, equipment, vaults, and the building. The release mechanisms for either the Modified CMRR-NF or the TA-55 Plutonium Facility would be similar, and the total amount of radioactive material that could be released would be more or less proportional to the amounts and forms of materials that might be at risk in either facility. As proposed, the Modified CMRR-NF would likely have much less material at risk in a severe seismic event than the TA-55 Plutonium Facility.

DOE has committed to seismic upgrades to the TA-55 Plutonium Facility such that it would result in an updated safety-basis estimate (NNSA 2011) of mitigated consequences of less than 25 rem to the MEI (the DOE Evaluation Guideline described in DOE Standard 3009) for a seismically induced fire. The 2011 safety basis analysis prepared in support of NNSA's response to the DNFSB concluded that seismically upgrading the fire-suppression system would further reduce calculated offsite consequences to the MEI to the level estimated for the seismically induced spill without fire, which is about 9 rem (NNSA 2011).

Under the Modified CMRR-NF Alternative, the MEI doses for the seismically induced spill or seismically induced spill plus fire from the Modified CMRR-NF are estimated to be about 0.3 rem. For the MEI closest to TA-55, the doses from the Modified CMRR-NF would add directly to those from the other TA-55 facilities. The dose from the TA-55 Plutonium Facility, with its larger inventory, and other TA-55 facilities is still expected to be the major contributor to the MEI dose. When the updated TA-55 facility doses are combined with the projected doses from the Modified CMRR-NF in the event of a very severe earthquake, the dose to the MEI would be about 19 rem (19 rem from the TA-55 Plutonium Facility and other facilities at TA-55 and 0.3 rem from the Modified CMRR-NF), and the 2030 estimated population dose within 50 miles (80 kilometers) of LANL would be about 4,500 person-rem for a seismically induced spill plus fire. Given a severe seismic event accompanied by a fire, these doses represent a probability of the MEI developing a fatal cancer from this dose of 0.023, or approximately 1 chance in 44, and are expected to result in up to 3 LCFs in the population surrounding the site.

Involved Worker Impacts

Approximately 550 workers would be at the Modified CMRR-NF and RLUOB during operations. The impacts on involved workers are very dependent on the type of accident, the severity of the accident, the location of workers, and protective action taken. An additional approximately 900 workers would be in close proximity in the Plutonium Facility. Any workers near an accident could be at risk of serious injury or death. Following initiation of accident and site emergency alarms, workers in adjacent areas of the

[12] *The estimated dose consequences included in the* LANL SWEIS *(DOE 2008b) were based on a PC-3 seismic event with a return period of 2,000 years and a peak horizontal ground acceleration of approximately 0.31 g (the current PC-3 seismic event return period is 2,500 years). The* 2007 Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory *(LANL 2007a) had been recently issued and an evaluation of the effects of the new data on LANL facilities was just getting underway. The consequences of a current PC-3 seismic event could be higher than estimated in the* LANL SWEIS.

facility would evacuate the area in accordance with technical area and facility emergency operating procedures and training.

Hazardous Chemicals and Explosives Impacts

Some of the chemicals that would be used in the Modified CMRR-NF and RLUOB operations are toxic and carcinogenic. The quantities of the regulated hazardous chemicals and explosive materials stored and used would be well below threshold quantities set by EPA (40 CFR Part 68) and would pose minimal potential hazards to the public health and the environment in an accident condition. These chemicals would be stored and handled in small quantities (10 to a few hundred milliliters) and would only be a hazard to the involved worker under accident conditions.

4.3.10.3 Intentional Destructive Acts

Analysis of the impacts of terrorist incidents on the construction and operation of the Modified CMRR-NF is presented in a classified appendix to this *CMRR-NF SEIS*. The impacts of some terrorist incidents would be similar to the accident impacts described earlier in this section, while some terrorist incidents may have more-severe impacts. A description of how NNSA assesses the vulnerability of its sites to terrorist threats and then designs its response systems is in Section 4.2.10.3.

4.3.11 Environmental Justice

Construction Impacts – Deep Excavation and Shallow Excavation Options—There would be no disproportionately high and adverse environmental impacts on minority or low-income populations due to construction activities at TA-55 under either construction option of the Modified CMRR-NF Alternative. This conclusion is a result of analyses in this *CMRR-NF SEIS* that determined there would be no significant impacts on human health, ecological resources, cultural and paleontological resources, socioeconomics, or other resource areas described in other subsections of this chapter.

Operations Impacts—Population estimates of the entire population and minority and low-income subsets of the population have been projected to the year 2030 (see Section 4.3.10.1 and Chapter 3, Section 3.10). Consistent with the human health analysis, impacts were analyzed on the potentially affected populations within 50 miles (80 kilometers) of TA-55. In addition, impacts on populations in close proximity were analyzed at radial distances of 5, 10, and 20 miles (8, 16, and 32 kilometers).

Table 4–32 shows the impacts on the total and subset populations within 5, 10, and 20 miles (8, 16, and 32 kilometers) of TA-55, the location of the proposed CMRR-NF. The total population within 5 miles (8 kilometers) of TA-55 is projected to receive an annual dose of approximately 0.5 person-rem; the average individual dose is projected to be 0.040 millirem, annually. Within 5 miles (8 kilometers) of TA-55, the average dose to a minority individual would be 0.042 millirem, annually. This dose is very small and represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.5×10^{-8}, or 1 chance in about 40 million, annually. There is no appreciable difference between the estimated dose to the average minority individual (0.042 millirem per year) and the average nonminority individual (0.039 millirem per year). Average annual doses estimated for individuals of other minority population subsets shown in the table would be very small and less than the dose to an average individual of the total population (0.040 millirem per year).

Table 4–32 Modified CMRR-NF Alternative — Comparison of Annual Doses to Total Minority, Hispanic, Native American, and Low-Income Populations Within 5, 10, and 20 Miles (8, 16, and 32 kilometers) and to Average Individuals (in 2030)

	5 Miles (8 kilometers)		*10 Miles (16 kilometers)*		*20 Miles (32 kilometers)*	
	Population (person-rem)	*Average Individual (millirem)*	*Population (person-rem)*	*Average Individual (millirem)*	*Population (person-rem)*	*Average Individual (millirem)*
Total population	0.50	0.040	0.61	0.030	0.84	0.013
Nonminority population	0.31	0.039	0.38	0.030	0.43	0.019
Total minority population	0.18	0.042	0.23	0.030	0.41	0.0094
Hispanic population [a]	0.079	0.034	0.11	0.027	0.27	0.0078
Native American population	0.006	0.039	0.015	0.016	0.034	0.0070
Non-low-income population	0.48	0.040	0.59	0.030	0.79	0.013
Low-income population	0.016	0.040	0.022	0.025	0.058	0.0073

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.
[a] The Hispanic population includes all Hispanic persons, regardless of race.

Doses to persons living below the poverty level are also presented in Table 4–32. The average annual dose to an individual, whether below or above the poverty level, would be 0.040 millirem; this dose represents an increased risk of developing a latent fatal cancer of 2.4×10^{-8}, or about 1 chance in 42 million, annually.

The total population within 10 miles (16 kilometers) of TA-55 is projected to receive an annual dose of approximately 0.61 person-rem; the average individual dose is projected to be 0.030 millirem, annually. The average individual in any minority subset of the population within 10 miles (16 kilometers) would receive an annual dose less than or equal to the average individual (0.030 millirem). This dose is very small and represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.8×10^{-8}, or 1 chance in about 55 million, annually. An individual member of the low-income population would receive an average annual dose of about 0.025 millirem. This dose is less than the average dose that would be received by a member of the total population and represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.5×10^{-8}, or about 1 chance in 68 million, annually.

The total population within 20 miles (32 kilometers) of TA-55 is projected to receive an annual dose of approximately 0.84 person-rem; the average individual dose is projected to be 0.013 millirem, annually. The average annual dose to a member of the nonminority population (0.019 millirem) would be higher than the average annual dose to an individual of the total population (0.013 millirem). The average dose to a member of any of the minority population subsets would be less than the average dose to a member of the total population or nonminority population. The dose to the nonminority average individual is very small and represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.2×10^{-8}, or 1 chance in about 85 million, annually. The average dose to a member of the low-income population would be much lower than the average doses to a member of the non-low-income population and the total population.

As shown in **Table 4–33**, the total population (approximately 511,000) within 50 miles (80 kilometers) of TA-55 under the Modified CMRR-NF Alternative is projected to receive a dose of approximately 1.8 person-rem and an average individual dose of 0.0035 millirem, annually.

Table 4–33 Modified CMRR-NF Alternative — Comparison of Annual Doses to Total Minority, Hispanic, Native American, and Low-Income Populations Within 50 Miles (80 kilometers) and to Average Individuals (in 2030)

	Population (person-rem)	*Average Individual (millirem)*
Total population	1.8	0.0035
Nonminority population	0.82	0.0037
Total minority population	0.95	0.0033
Hispanic population [a]	0.73	0.0031
Native American population	0.071	0.0027
Non-low-income population	1.6	0.0036
Low-income population	0.18	0.0027

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.
[a] The Hispanic population includes all Hispanic persons, regardless of race.

The population subset of nonminority individuals would receive the highest average dose, 0.0037 millirem, annually. This dose is very small and represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.1×10^{-9}, or 1 chance in about 480 million, annually. Doses estimated for the average individual of the following population subsets would all be less than the dose to the average individual of the total population: all (total) minorities, Native Americans, and Hispanics of any race. The total minority population is expected to receive the largest annual collective dose (0.95 person-rem) of the population subsets, because the majority of the population surrounding LANL is considered part of a minority group; the annual average dose to a member of the minority population would be 0.0033 millirem. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.0×10^{-9}, or about 1 chance in 500 million, annually. Native Americans living within 50 miles (80 kilometers) of TA-55 would receive a collective dose of 0.071 person-rem annually and an average individual dose of 0.0027 millirem, annually. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.6×10^{-9}, or about 1 chance in 610 million, annually. The Hispanic population would receive a collective dose of 0.73 person-rem annually; the average individual dose to a member of the Hispanic population would be 0.0031 millirem, annually. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.9×10^{-9}, or about 1 chance in 530 million, annually.

Population doses to persons living below the poverty level are also presented in Table 4–33. The low-income population surrounding TA-55 would receive an annual dose of 0.18 person-rem; the average dose to an individual would be 0.0027 millirem, annually. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.6×10^{-9}, or about 1 chance in 610 million, annually. Persons living above the poverty level would receive an annual collective dose of 1.6 person-rem; the average dose to an individual would be 0.0036 millirem, annually. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.1×10^{-9}, or about 1 chance in 480 million, annually.

These data show that the dose to all population subsets surrounding TA-55 at radial distances of 5, 10, 20, and 50 miles (8, 16, 32, and 80 kilometers) would be small and would not result in adverse impacts on human health. Within the 5-, 10-, and 20-mile (8-, 16-, and 32-kilometer) radial distances, the highest population dose projected is to the nonminority population. The average annual individual dose to the minority population slightly exceeds that to the nonminority population within the 5- and 10-mile (8- and 16-kilometer) radial distances; however, there is no appreciable difference between projected doses. Although the annual population dose to the total minority population is projected to be slightly higher than that to the nonminority population within 50 miles (80 kilometers) of TA-55, the difference between doses is also not appreciable. Furthermore, within 50 miles (80 kilometers) of TA-55, the dose to the average individual of the nonminority population is projected to be slightly higher than the projected dose to the average individual of the minority population.

A special pathways receptor analysis was performed in support of the 2008 *LANL SWEIS*. In this analysis, it was determined that a special pathways receptor who consumed increased amounts of fish, deer, and elk from the areas surrounding LANL and drank surface water and Indian tea (Cota) along with other potentially contaminated foodstuffs could receive an additional dose of up to 4.5 millirem per year from these special pathways (see Appendix C, Section C.1.4 of the 2008 *LANL SWEIS* [DOE 2008a]). Doses associated with normal operation of the proposed CMRR-NF would not be expected to increase the doses from these special pathways. Therefore, if the MEI associated with this *CMRR-NF SEIS* were also assumed to be a special pathways receptor, the maximum dose would be up to 4.8 millirem per year (4.5 millirem associated with special pathways and about 0.3 millirem associated with normal operations of the Modified CMRR-NF). This dose is low; it would represent an increase of 1 percent above the approximately 480 millirem that a person residing near LANL would normally receive annually from natural background radiation. In terms of increased risk of a fatal cancer from the special pathways dose plus the dose from normal operations of the CMRR-NF, it would represent an annual estimated risk of 3×10^{-6} or about 1 chance in 333,000.

For nonradiological air quality impacts, as shown in Table 4–20, the concentrations of criteria pollutants as a result of Modified CMRR-NF and RLUOB operations under the Modified CMRR-NF Alternative would remain well below the ambient standards established to protect human health. Therefore, the impact of potential nonradiological air pollutant releases on minority or low-income individuals under this alternative would not be considered significant.

Nonradiological air quality impacts are discussed in Section 4.3.4.1. Nonradiological releases due to CMRR-NF or RLUOB operations under the Modified CMRR-NF Alternative would be the same as those discussed under the No Action Alternative. The maximum concentration of criteria pollutants from Modified CMRR-NF and RLUOB operations would be below ambient standards established to protect human health. Therefore, the impact of potential nonradiological air pollutant releases on minority or low-income individuals under this alternative would be considered minor.

Potential impacts on cultural resources at LANL are discussed in Section 4.3.8. There are several sites of cultural significance in the vicinity of project activities. There would be no impacts on these resources through avoidance. Therefore, no adverse impacts on cultural resources at LANL or surrounding communities are expected from implementing this alternative.

Residents of the Pueblo of San Ildefonso have expressed concern that pollution from CMRR Facility operations could contaminate Mortandad Canyon, which drains onto pueblo land and sacred areas. CMRR Facility operations under this alternative are not expected to adversely affect air. There would be no direct liquid discharges, and stormwater management controls would be in place to collect stormwater and prevent washout and soil erosion. Thus, there would be no contamination of tribal lands adjacent to the LANL boundary. Impacts on surface-water and groundwater quality are discussed in Section 4.3.6.

As discussed in Section 4.3.13, there are not expected to be any significant impacts on transportation routes or traffic in the area surrounding LANL during construction or operations as a result of implementing this alternative. A separate analysis has been included in Section 4.3.13 on the specific impacts of transporting radioactive materials from LANL to Pojoaque and from Pojoaque to Santa Fe, transportation routes that include sections through tribal lands. The results of this analysis show that the incident-free population risks are small, at most 2×10^{-5} or 1 chance in 50,000 that the radiological dose to the public from this transportation would result in a latent cancer fatality in the affected population. Similarly, accident risks associated with this transportation on these routes are small, at most 4×10^{-4} or

1 chance in 2,500 that a traffic accident involving one of the trucks would result in a fatality in the affected population.

These data show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse impacts from normal operations of the Modified CMRR-NF and RLUOB at TA-55.

4.3.12 Waste Management and Pollution Prevention

Construction Impacts – Deep Excavation and Shallow Excavation Options—Under either construction option, acreage would be disturbed in several technical areas in addition to TA-55. Surveys have been conducted to identify potential release sites (PRSs), and no unidentified or unexpected soil contamination or buried media have been encountered (LANL 2010d). There are, however, known PRSs located within the affected technical areas (for example, Material Disposal Area [MDA] C in TA-50), and the potential for contact with contaminated soil or other media would be appropriately considered throughout the construction process. For example, PRS-48-001 is being evaluated for potential impacts resulting from actions in the TA-48/55 laydown and concrete batch plant area. Proper precautions would be taken as needed to minimize the potential disturbance of this or other PRSs. As needed, actions such as appropriate documentation and contaminant removal would be taken by the LANL Environmental Restoration Program in accordance with the 2005 Consent Order[13] and other applicable requirements. Wastes that might be generated from these actions have not been specifically analyzed because the types and quantities of waste are unknown. Possible waste volumes that could result from site-wide remediation activities were, however, projected in the 2008 *LANL SWEIS* (see Chapter 3, Section 3.12).

Modified CMRR-NF construction would principally generate nonhazardous solid waste under either the Deep or Shallow Excavation Option. If small quantities of other radioactive or nonradioactive wastes are generated, as experienced during RLUOB construction, the wastes would be managed in accordance with standard LANL procedures (see Chapter 3, Section 3.12). Sanitary wastewater generated as a result of construction activities would be managed using some plumbed restrooms and portable toilet systems, with sanitary wastewater from the restrooms transferred to the Sanitary Wastewater Systems Plant in TA-46 for treatment. No other nonhazardous liquid wastes are expected.

Total and peak annual quantities of construction waste (construction debris and sanitary solid waste generated by construction workers) were estimated for both construction options and are summarized in **Table 4–34**. Under the Modified CMRR-NF Alternative, regardless of the excavation option, the same peak annual waste quantities would be generated and the same total quantity of construction waste (2,600 tons [2,400 metric tons]) would be generated since the difference is due to excavation and other activities during which little construction waste would be generated. Using an average waste density of 0.5 tons per cubic yard, 340 tons (308 metric tons) of peak annual waste would represent about 1 percent of the 59,000 to 62,000 cubic yards (45,000 to 47,000 cubic meters) of construction and demolition waste annually projected in the 2008 *LANL SWEIS* (see Table 4–57).

[13] In March 2005, the New Mexico Environment Department, DOE, and the LANL management and operating contractor entered into a Compliance Order on Consent (Consent Order) (NMED 2005). The purposes of the Consent Order are (1) to define the nature and extent of releases of contaminants at, or from, LANL; (2) to identify and evaluate, where needed, alternatives for corrective measures to clean up contaminants in the environment and prevent or mitigate the migration of contaminants at, or from, LANL; and (3) to implement such corrective measures.

Table 4–34 Modified CMRR-NF Alternative — Construction Debris and Sanitary Solid Waste Generation for Construction of the Modified CMRR-NF

Construction Option	Construction Waste (tons) [a]	
	Total	Peak Annual
Deep Excavation	2,600	340
Shallow Excavation	2,600	340

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.
[a] Construction waste includes construction debris and sanitary solid waste generated by construction workers.
Note: Estimates have been rounded. To convert tons to metric tons, multiply by 0.90718.

The waste would be collected in appropriate waste containers such as dumpsters or rolloffs and regularly disposed of or recycled by transfer to the Los Alamos County Eco Station located at the Los Alamos County Landfill site within the LANL boundary or by transfer to an offsite solid waste facility permitted to accept the waste. Waste transferred to the Los Alamos County Eco Station would be separated into materials suitable for recycle or disposal, and both types of materials would be shipped for offsite disposition. Because the Los Alamos County Eco Station is permitted to accept construction and demolition waste, as well as municipal solid waste, it is expected that the Los Alamos County Eco Station would be able to accept the bulk of the projected waste from the Modified CMRR-NF construction. If waste is generated that is not acceptable at the Los Alamos County Eco Station (for example, petroleum-contaminated soil or other special waste), or for other reasons such as convenience to the government, then the waste would be transferred to an appropriate, permitted offsite facility for disposition.

No impacts on available solid waste management capacity are expected because of the small quantity of waste to be managed annually (340 tons [308 metric tons] of combined construction debris and sanitary solid waste) compared to the total quantities of solid waste addressed on a county and state basis and the large number of available waste disposition facilities within New Mexico. Including the Los Alamos County Eco Stations, 239 landfills, recycling facilities, composting facilities, or transfer stations of convenience were permitted in New Mexico as of July 2009, including 19 facilities permitted to accept special waste, such as petroleum-contaminated soil (NMED 2009). The projected annual quantity of Modified CMRR-NF construction debris and sanitary solid waste represents only about 1 percent of the waste processed in 2009 at the Los Alamos County Eco Station (Nagawiecki 2010).

Operations Impacts—Projected annual waste generation rates for operations at the Modified CMRR-NF and RLUOB are summarized in **Table 4–35** (LANL 2010c), along with projected overall LANL activities based on information from the 2008 *LANL SWEIS* (DOE 2008a; LANL 2010a). In the following discussion, waste generation rates projected in this *CMRR-NF SEIS* from operation of the Modified CMRR-NF and RLUOB are compared to waste generation rates projected in the 2008 *LANL SWEIS* from operation of the CMR Building and site-wide LANL operations. Radioactive solid and liquid wastes generated from Modified CMRR-NF and RLUOB operations would constitute only fractions of the total quantities of each of these generated wastes (see Table 4–35).

Note that a transition period would initially occur, during which operations at the CMR Building would be transferred to the Modified CMRR-NF. During this transition period, wastes would be generated at both the CMR Building (see Section 4.4.12) and the Modified CMRR-NF and RLUOB, although the annual rates may be less at either facility than the rates estimated in Table 4–35 and in Section 4.4.12.[14] Both on- and offsite waste management capacity are sufficient for this transition period.

[14] *Operations at the Modified CMRR-NF and RLUOB would be limited initially and then increase at the same time that CMR Building operational activities would decrease.*

Table 4–35 Modified CMRR-NF Alternative — Operational Waste Generation Rates Projected for Modified CMRR-NF, RLUOB, and Los Alamos National Laboratory Activities

Waste Type	*Projected Modified CMRR-NF Generation Rate* [a]	*Projected RLUOB Generation Rate* [a]	*Projected Modified CMRR-NF and RLUOB Generation Rate*	*Site-wide LANL Projections*
Transuranic and mixed transuranic (cubic yards per year)	88	0	88	440 to 870 [b]
Low-level radioactive (cubic yards per year)	2,510	130	2,640	21,000 to 115,000 [b]
Mixed low-level radioactive (cubic yards per year)	23.7	2.3	26	320 to 18,100 [b]
Chemical (tons per year) [c]	11.9	0.5	12.4	3,200 to 5,750 [b]
Sanitary solid (tons per year) [d]	71	24	95	– [e]
Sanitary wastewater (gallons per year)	8,315,000	2,485,000	10,800,000	156,000,000 [f]
Radioactive liquid (gallons per year)	248,000 [g]	95,800	344,000	4,000,000 [h]

CMRR-NF = Chemistry and Metallurgy Research Replacement Project Nuclear Facility; LANL = Los Alamos National Laboratory; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] From *CMRR-NF Project and Environmental Description Document* (LANL 2010d) and other sources (LANL 2011a:Data Call Tables, 004, 005).

[b] Projected waste quantities from LANL operations are given as a range in the *LANL SWEIS* (DOE 2008a). The listed value reflects the assumption of the Expanded Operations Alternative in the *LANL SWEIS*, less the waste projected from some activities that were not implemented (see Table 4–57).

[c] Chemical waste is not a formal LANL waste category; however, as was done in the 2008 *LANL SWEIS* (DOE 2008a), the term is used in this *CMRR-NF SEIS* to denote a variety of materials, including hazardous waste regulated under the Resource Conservation and Recovery Act; toxic waste regulated under the Toxic Substances Control Act; and special waste designated under the New Mexico Solid Waste Regulations, including industrial waste, infectious waste, and petroleum-contaminated soil.

[d] The projected quantity of Modified CMRR-NF and RLUOB sanitary solid waste (municipal trash) was estimated by multiplying the projected annual number of full-time equivalent radiation workers (140 for RLUOB and 410 for the Modified CMRR-NF) by an assumed annual 344 pounds of waste generated per person per year (see Chapter 3, Section 3.12.2).

[e] Annual sanitary solid waste quantities were not projected in the 2008 *LANL SWEIS*.

[f] The value shown is the annual volume of wastewater processed at the Sanitary Wastewater Systems Plant in TA-46, assuming operation at its 600,000-gallon-per-day design capacity for 260 working days per year (DOE 2003b). Sanitary wastewater and nonradioactive liquid waste are both projected to be routed to the Sanitary Wastewater Systems Plant for treatment.

[g] Includes 247,000 gallons per year of liquid low-level radioactive waste and 950 gallons per year of liquid transuranic waste at the Modified CMRR-NF (Balkey 2011).

[h] The value shown is the projected annual liquid low-level radioactive waste treatment rate at RLWTF assuming implementation of the No Action Alternative in the 2008 *LANL SWEIS*; annual treatment of 30,000 gallons of liquid transuranic waste was also projected (DOE 2008a).

Note: To convert cubic yards to cubic meters, multiply by 0.76456; tons to metric tons, by 0.90718; gallons to liters, by 3.78533.

Transuranic and Mixed Transuranic Wastes

Activities at the Modified CMRR-NF would generate transuranic and mixed transuranic wastes that would be packaged in containers in accordance with the WIPP waste acceptance criteria and shipped to WIPP for disposal. The combined annual volume of transuranic and mixed transuranic wastes (88 cubic yards [67 cubic meters]) is about 60 percent larger than that projected for the CMR Building operations in the 2008 *LANL SWEIS* (DOE 2008a). It would represent only about 10 to 20 percent of the annual 440 to 870 cubic yards (340 to 670 cubic meters) of combined transuranic and mixed transuranic waste projected for site-wide LANL operations in the 2008 *LANL SWEIS*. The Modified CMRR-NF would be designed and operated to accommodate the projected waste volumes, and no difficulty in managing the waste for shipment to WIPP is expected on either a facility or a site-wide LANL basis.

Over 50 years of Modified CMRR-NF and RLUOB operations (DOE 2003b), about 4,400 cubic yards (3,400 cubic meters) of transuranic and mixed transuranic wastes would be generated. The total WIPP capacity for transuranic waste disposal is set at about 219,000 cubic yards (168,000 cubic meters) of contact-handled transuranic waste pursuant to the Waste Isolation Pilot Plant Land Withdrawal Act (DOE 2002b). Estimates in the *Annual Transuranic Waste Inventory Report – 2010* (DOE 2010b) indicate that about 185,000 cubic yards (141,000 cubic meters) of contact-handled transuranic waste would be disposed of at WIPP, about 36,000 cubic yards (27,500 cubic meters) less than the contact-handled transuranic waste permitted capacity. The projected 50-year total of 4,400 cubic yards (3,400 cubic meters) of transuranic and mixed transuranic waste from Modified CMRR-NF and RLUOB operations would require about 12 percent of the unsubscribed WIPP disposal capacity.

Because the total quantity of transuranic waste that may be disposed of at WIPP is statutorily established, and the operating period for WIPP will depend on the volumes of transuranic waste that may be disposed of at WIPP, WIPP may meet its statutory disposal limit before the end of the operational period of the Modified CMRR-NF. If necessary, transuranic or mixed transuranic waste generated without a disposal pathway would be safely stored pending development of additional disposal capacity.

Low-Level Radioactive Waste

Solid low-level radioactive waste generated from Modified CMRR-NF and RLUOB operations would be characterized and packaged for disposal. Disposal would occur off site at the Nevada National Security Site (NNSS) (formerly known as the Nevada Test Site) or at a commercial disposal facility or could occur on site while Area G continues to accept waste. Typical disposal containers would include B-25 boxes and 55-gallon (208-liter) drums. About 2,640 cubic yards (2,020 cubic meters) of solid low-level radioactive waste would be generated annually, including the solid low-level radioactive component of liquid wastes treated through RLWTF or a similar facility. This projected volume would represent a 10 percent increase in the low-level radioactive waste annually projected for the CMR Building in the 2008 *LANL SWEIS* (DOE 2008a). The projected waste from Modified CMRR-NF and RLUOB operations would represent about 2 to 13 percent of the projected annual site-wide LANL volume (21,000 to 115,000 cubic yards [16,000 to 88,000 cubic meters]).

Because the Modified CMRR-NF and RLUOB would be designed, constructed, and operated to accommodate the projected waste volumes for the facilities, no difficulties are expected in packaging and staging this waste pending transfer to LANL Area G or shipment to offsite disposal facilities. Disposal capacity is also expected to be available. Annual generation of 2,640 cubic yards (2,020 cubic meters) of low-level radioactive waste from the Modified CMRR-NF and RLUOB operations would represent about 4 percent of the average low-level radioactive waste disposal rate at the NNSS[15] and about 2 percent of the current low-level radioactive waste disposal rate at the commercial facility in Clive, Utah.[16]

[15] *For the 5 years from 2004 through 2008, an annual average of 62,900 cubic yards (48,000 cubic meters) of low-level radioactive waste and 1,540 cubic yards (1,180 cubic meters) of mixed low-level radioactive waste was disposed of at NNSS (Gordon 2009).*

[16] *Based on estimates for three-quarters of calendar year 2010, extrapolated to 1 year (Hultquist 2010).*

Mixed Low-Level Radioactive Waste

Mixed low-level radioactive waste generated from Modified CMRR-NF and RLUOB operations would be packaged and temporarily stored pending transport off site to a commercial treatment, storage, and disposal facility and/or to the NNSS in Nevada. Typical shipment packages would include B-25 boxes and 55-gallon (208-liter) drums. The projected 26 cubic yards (20 cubic meters) of mixed low-level radioactive waste from Modified CMRR-NF operations would be only slightly larger than the annual rate projected from the CMR Building in the 2008 *LANL SWEIS* (DOE 2008a). The projected Modified CMRR-NF and RLUOB volume would represent about 0.1 to 8 percent of the 320 to 18,100 cubic yards (240 to 14,000 cubic meters) of mixed low-level radioactive waste projected for LANL in the 2008 *LANL SWEIS*.

Sufficient offsite treatment, storage, and disposal capacity is expected for the mixed low-level radioactive waste projected from Modified CMRR-NF and RLUOB operations. Several permitted commercial treatment, storage, and disposal facilities exist in the United States (for example, in Florida, Tennessee, Texas, Washington, and Utah), in addition to the mixed low-level radioactive waste disposal capacity available at the NNSS in Nevada, and additional facilities may be used as they are available and appropriate for the waste contents or characteristics. The projected mixed low-level radioactive waste from the Modified CMRR-NF and RLUOB would represent about 2 percent of the average mixed low-level radioactive waste disposal rate at the NNSS[17] and less than 1 percent of the current mixed low-level radioactive waste disposal rate at the commercial facility in Clive, Utah.[18]

Chemical Waste

Chemical waste is not a formal LANL waste category; however, as was done in the 2008 *LANL SWEIS* (DOE 2008a), the term is used in this *CMRR-NF SEIS* to denote a broad category of materials, including hazardous wastes, toxic wastes, and special waste designated under the New Mexico Solid Waste Regulations. Chemical waste generated from Modified CMRR-NF and RLUOB operations would be packaged and shipped to offsite permitted recycle or treatment, storage, and disposal facilities, typically in 55-gallon (208-liter) drums. Temporary storage before offsite shipment may occur at the Modified CMRR-NF and RLUOB or at a permitted LANL storage area. About 12.4 tons (11.2 metric tons) of chemical waste would be generated annually from Modified CMRR-NF and RLUOB operations. This projected rate is only slightly larger than the chemical waste projected for the CMR Building in the 2008 *LANL SWEIS* (DOE 2008a). The projected Modified CMRR-NF and RLUOB operations chemical waste quantity would represent from 0.2 to 0.4 percent of the annual chemical waste projection for LANL in the 2008 *LANL SWEIS*. The Modified CMRR-NF and RLUOB would be designed and operated to accommodate this waste, and no difficulty in managing this waste for shipment for offsite disposition is expected on either a facility or a site-wide LANL basis. Adequate offsite waste disposition capacity is expected for the chemical waste projected from Modified CMRR-NF and RLUOB operations because of the large number of permitted facilities that exist within New Mexico and neighboring states.

Sanitary Solid Waste

Based on the projected number of full-time equivalent workers at the Modified CMRR-NF and RLUOB (550) and the assumption that each worker generates 344 pounds (156 kilograms) of sanitary solid waste (municipal trash) annually (see Chapter 3, Section 3.12.2), about 95 tons (86 metric tons) of sanitary solid

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[17] *For the 5 years from 2004 through 2008, an annual average of 62,900 cubic yards (48,000 cubic meters) of low-level radioactive waste and 1,540 cubic yards (1,180 cubic meters) of mixed low-level radioactive waste was disposed of at NNSS (Gordon 2009).*
[18] *Based on estimates for three-quarters of calendar year 2010, extrapolated to 1 year (Hultquist 2010).*

waste would be generated annually. This waste would be collected in appropriate waste containers, such as dumpsters, and regularly disposed of or recycled by transfer to the Los Alamos County Eco Station located at the Los Alamos County Landfill site within the LANL boundary or by transfer to an offsite solid waste facility permitted to accept the waste. No impacts on available solid waste management capacity are expected because of the small quantity of sanitary solid waste that would be generated at the Modified CMRR-NF and RLUOB compared to the total quantities of solid waste addressed annually on a county and state basis and the large number of available waste disposition facilities within New Mexico. Ninety-five tons (86 metric tons) of sanitary solid waste generation would represent only about 0.3 percent of the waste processed in 2009 at the Los Alamos County Eco Station (see the *Construction Impacts* discussion within this section).

Sanitary Wastewater

Approximately 10,800,000 gallons (40,900,000 liters) of sanitary wastewater would be generated annually from Modified CMRR-NF and RLUOB operations; this wastewater would to be sent to the Sanitary Wastewater Systems Plant in TA-46 (see Chapter 3, Section 3.12.1). The projected wastewater volume from the Modified CMRR-NF and RLUOB would include 7,300,000 gallons (27,600,000 liters) for sanitary flow and 3,500,000 gallons (13,200,000 liters) for reject water from the facility demineralization water treatment system.[19] This wastewater flow would represent only about 7 percent of the 600,000-gallon-per-day (2.27-million-liter-per-day) design capacity of the Sanitary Wastewater Systems Plant in TA-46, assuming 260 working days per year (DOE 2003b). Therefore, no impacts on available sanitary wastewater treatment capacity are expected from Modified CMRR-NF and RLUOB operations.

Radioactive Liquid Waste

Modified CMRR-NF and RLUOB operations are projected to generate about 344,000 gallons (1.3 million liters) of liquid low-level radioactive waste annually, including about 950 gallons (3,600 liters) of liquid transuranic waste. This liquid waste would be transferred for treatment to RLWTF in TA-50 (Balkey 2011). The treatment process would generate solid low-level radioactive waste (for example, solidified liquids) that would be managed as discussed above. The annual volume of radioactive liquid waste from the Modified CMRR-NF and RLUOB would represent only about 8.5 percent of the annual volume of 4 million gallons (15 million liters) of liquid low-level radioactive waste and 3 percent of the 30,000 gallons (110,000 liters) of liquid transuranic waste projected for RLWTF in the 2008 *LANL SWEIS* (see Table 4–35). The projected liquid waste generation rates from Modified CMRR-NF and RLUOB have been considered in LANL forecasts for annual receipt of liquid waste at RLWTF (Balkey 2011), and no impacts on radioactive liquid waste treatment and discharge capacity are expected from its operation.

4.3.13 Transportation and Traffic

4.3.13.1 Transportation

The risk of transporting radioactive materials can be affected by a number of factors. These factors are predominantly categorized as either radiological or nonradiological impacts. Radiological impacts are those associated with the accidental release of radioactive materials and the effects of low levels of radiation emitted during normal, or incident-free, transportation. Nonradiological impacts are those

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[19] All water supplied to the CMRR-NF would be treated in a demineralization unit to remove silica. This treatment process would reduce maintenance of boilers and other major equipment and increase equipment durability and operating life. The demineralization unit produces treated water that would be supplied to the CMRR-NF and reject water that would be discharged through the CMRR-NF sanitary wastewater system (LANL 2010d).

associated with the transportation itself, regardless of the nature of the cargo, such as accidents resulting in death or injury when there is no release of radioactive material.

In addition to calculating the radiological risks that would result from all reasonable accidents during transportation of radioactive wastes, NNSA assessed the highest consequences of a maximum reasonably foreseeable accident with a radioactive release frequency greater than 1×10^{-7} (1 chance in 10 million) per year along the route. The consequences were determined for average atmospheric conditions. For additional information on the assumptions and methods used in the transportation analysis, see Appendix B.

At LANL, radioactive materials (for example, SNM, low-level radioactive waste, transuranic waste) are transported both on site (between the technical areas) and off site to multiple locations. Onsite transportation constitutes the majority of activities that are part of routine operations in support of various programs. The impacts of these activities are part of the impacts of routine operations at these areas. For example, worker dose from handling and transporting radioactive materials is included as part of the worker dose from operational activities. Specific analyses performed in the 2008 *LANL SWEIS* (DOE 2008a) indicate that the projected collective radiation dose for LANL drivers from the projected onsite shipments was, on average, less than 1 millirem per transport. A review of onsite radioactive materials transportation under all alternatives in this *CMRR-NF SEIS* indicates that the 2008 *LANL SWEIS* projection of impacts would envelop the impacts for routine onsite transportation.

Transport of SNM, equipment, and other materials currently located at the CMR Building to a Modified CMRR-NF at TA-55 would occur over a period of 3 years on open or closed roads. The public is not expected to receive any measurable exposure from the one-time movement of radiological materials associated with this action. CMR Building workers could receive a minimal dose from shipping and handling of SNM during the transition from the existing CMR Building to the Modified CMRR-NF at TA-55. Based on a review of radiological exposure information in calendar year 2009, the average dose to LANL workers (including CMR Building workers and material handlers) is about 100 millirem per year. Because the transition to operations at the Modified CMRR-NF at TA-55 would occur over multiple years, the material handler worker dose would be similar to those for normal operations currently performed at the CMR Building.

Offsite transportation of radioactive materials would occur using trucks. The radioactive materials that would be transported include low-level radioactive waste and transuranic waste. For analysis purposes in this *CMRR-NF SEIS*, the destinations for disposal of radioactive wastes were limited to DOE disposal sites such as the NNSS in Nevada and a commercial waste disposal site such as the Energy*Solutions* disposal site in Clive, Utah; disposal of transuranic waste was assumed to occur at WIPP in New Mexico. The analyzed routes for these shipments are shown in Appendix B, Figure B–1.

Table 4–36 provides the estimated number of annual offsite shipments of operational wastes under each action alternative. This table also provides the estimated number of offsite shipments resulting from activities associated with construction of the Modified CMRR-NF at TA-55.

Table 4–36 Estimated Annual Offsite Shipments Under the Action Alternatives

Alternative	Annual Number of Shipments					
	Operational Wastes				Construction Shipments [a]	
	Low-Level Radioactive Waste	Mixed Low-Level Radioactive Waste	Transuranic Waste	Hazardous Waste	Nonhazardous Waste	Materials [b]
Modified CMRR-NF Alternative, Deep Excavation Option	176	2	13	2	20	4,300
Modified CMRR-NF Alternative, Shallow Excavation Option	176	2	13	2	20	3,300
Continued Use of CMR Building Alternative	21	1	2	1	0	0

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.
[a] Construction values are annualized values based on estimates on construction durations (about 9 years under the Modified CMRR-NF Alternative, Deep Excavation Option and Shallow Excavation Option).
[b] Materials include construction commodities: cements, gravel, sand, ash, structural and rebar steel, etc. These numbers are rounded to the nearest 100 shipments.

Construction Impacts

Routine (Incident-Free) Transportation – Deep Excavation Option—Under the Deep Excavation Option, about 4,300 shipments of construction-generated nonhazardous waste and construction commodities would be made annually (see Table 4–36). The nonhazardous waste would be transported to a regional disposal site in New Mexico (for example, Mountainair, about 130 miles [210 kilometers] away), and the construction commodities would be transported to TA-55 from a distance of up to 100 miles (160 kilometers) for sand, cement, and gravels and up to 500 miles (800 kilometers) for steels. Using these estimates, the total annual projected (one-way) distance traveled on public roads transporting construction materials to and from LANL would be about 470,000 miles (750,000 kilometers). The estimated total transportation is conservative because it assumes that all offsite material shipments would be from a distance of 100 to 500 miles (160 to 800 kilometers). It is likely that many of these shipments would be less than 100 miles (160 kilometers) because shipments of most of these materials should be obtained from Albuquerque or closer. Because no radioactive materials would be transported during construction, no radiological risks would be incurred by members of the transportation crew (truck drivers) from construction activities.

Routine (Incident-Free) Transportation – Shallow Excavation Option—Under the Shallow Excavation Option, about 3,300 shipments of construction-generated nonhazardous waste and construction commodities would be made annually (see Table 4–36). Based on the assumptions described above regarding materials and waste shipment distances, the total annual projected (one-way) distance traveled on public roads transporting construction materials to and from LANL would be about 380,000 miles (610,000 kilometers). As discussed above under the Deep Excavation Option, the estimated total transportation is conservative because it assumes that all offsite material shipments would be from a distance of 100 to 500 miles (160 to 800 kilometers). Because no radioactive materials would be transported during construction, no radiological risks would be incurred by members of the transportation crew (truck drivers) from construction activities.

Transportation Accidents – Deep Excavation Option—Under the Deep Excavation Option, the impacts of transporting construction materials were evaluated in terms of the distance traveled and number of expected traffic accidents and fatalities. The annual transportation impacts under this option would be 0 (0.3) traffic accidents and no (0.03) traffic fatalities. For the approximately 9 years to complete the project, these impacts would be 3 (2.5) traffic accidents and no (0.3) traffic fatalities.

Transportation Accidents – Shallow Excavation Option—Under the Shallow Excavation Option, the impacts of transporting construction materials were evaluated in terms of distance traveled and number of expected traffic accidents and fatalities. The annual transportation impacts under this option would be 0 (0.2) traffic accidents and no (0.02) traffic fatalities. For the approximately 9 years to complete the project, these impacts would be 2 (2.1) traffic accidents and no (0.2) traffic fatalities.

Operations Impacts

Routine (Incident-Free) Transportation—**Table 4–37** summarizes the total transportation impacts, as well as transportation impacts on two nearby LANL transportation routes: (1) LANL to Pojoaque, New Mexico, the route segment used by trucks from LANL, and (2) Pojoaque to Santa Fe, New Mexico, the route segment used by trucks traveling on Interstate 25 (such as trucks traveling to WIPP). For analysis purposes in this SEIS, two sites, the NNSS and a commercial facility in Utah, were selected as possible disposal sites for all low-level radioactive wastes should the decision be made to dispose of low-level radioactive waste off site rather than on site. Differences in distance to these two sites and the affected population along the transportation routes result in a range of impacts under each alternative.

Table 4–37 Modified CMRR-NF Alternative — Annual Risks of Transporting Operational Radioactive Materials

Transport Segments	*Offsite Disposal Option* [a]	*Number of Shipments*	*Round Trip Kilometers Traveled (thousand)*	*Incident-Free*				*Accident*	
				Crew		*Population*			
				Dose (person-rem)	*Risk* [b]	*Dose (person-rem)*	*Risk* [b]	*Radiological Risk* [b]	*Nonradiological Risk* [b]
LANL to Pojoaque	NNSS	191	11.9	0.07	4×10^{-5}	0.02	1×10^{-5}	4×10^{-9}	2×10^{-4}
Pojoaque to Santa Fe	NNSS	191	19.9	0.12	7×10^{-5}	0.04	2×10^{-5}	4×10^{-9}	4×10^{-4}
Total Route	NNSS	191	461	2.5	2×10^{-3}	0.8	5×10^{-4}	1×10^{-7}	7×10^{-3}
LANL to Pojoaque	Commercial	191	11.9	0.07	4×10^{-5}	0.02	1×10^{-5}	4×10^{-9}	2×10^{-4}
Pojoaque to Santa Fe [c]	Commercial	13	1.4	0.03	2×10^{-5}	0.01	5×10^{-6}	2×10^{-9}	3×10^{-5}
Total Route	Commercial	191	399	2.2	1×10^{-3}	0.7	4×10^{-4}	1×10^{-7}	6×10^{-3}

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory; NNSS = Nevada National Security Site.

[a] Under this option, low-level radioactive waste would be shipped to either the NNSS or a commercial site in Utah. Transuranic waste would be shipped to WIPP.

[b] Risk is expressed in terms of latent cancer fatalities, except for the nonradiological, where it refers to the number of traffic accident fatalities.

[c] Shipments of low-level radioactive waste to a commercial disposal site in Utah would not pass along the Pojoaque to Santa Fe segment of highway.

Note: To convert kilometers to miles, multiply by 0.62137.

Under this alternative, about 191 offsite shipments of radioactive materials would be made annually to the NNSS in Nevada (or a commercial site in Clive, Utah) and WIPP in New Mexico (see Table 4–37). Maximum transportation impacts would be realized if low-level and mixed low-level radioactive waste were shipped to either the NNSS in Nevada or a commercial site in Clive, Utah, instead of being disposed of on site. Transuranic waste would be shipped to WIPP. The total projected (one-way) distance traveled on public roads transporting radioactive materials to various locations would range from about 125,000 to 144,000 miles (200,000 to 231,000 kilometers).

The annual dose to the transportation crew from all offsite transportation activities under the Modified CMRR-NF Alternative was estimated to range from about 2.2 person-rem for disposal at the commercial low-level radioactive waste disposal site in Clive, Utah, to about 2.5 person-rem for disposal at the NNSS in Nevada. The dose to the general population would range from 0.7 to 0.8 person-rem for the commercial site in Clive, Utah, and the NNSS in Nevada, respectively. Accordingly, incident-free transportation would result in a maximum of no (2×10^{-3}) excess LCFs among the transportation workers and no (5×10^{-4}) excess LCFs in the affected population. The estimated dose associated with transport of low-level and mixed low-level radioactive waste to the NNSS in Nevada is higher because of the longer distance traveled and larger affected population. The differences in estimated doses under either disposal option are very small, however, as shown above.

Note that DOE regulations limit the maximum annual dose to a transportation worker to 100 millirem per year unless the individual is a trained radiation worker. The dose to a trained radiation worker is limited to 2 rem per year (DOE 1999b). The potential for a trained radiation worker to develop a fatal latent cancer from an annual dose at the maximum annual exposure is 0.0012. Therefore, an individual transportation worker is not expected to develop a lifetime latent fatal cancer from exposure during these activities.

The doses to the general populations along the routes from LANL to Pojoaque and from Pojoaque to Santa Fe, New Mexico, were estimated to be a maximum of 0.04 person-rem. This dose would result in no (2×10^{-5}) excess LCFs among the exposed populations.

Transportation Accidents—Two sets of analyses were performed for the evaluation of transportation accident impacts involving radioactive materials transport: impacts of maximum reasonably foreseeable accidents (accidents with probabilities greater than 1 in 10 million per year [1×10^{-7}]) and impacts of all accidents (total transportation accidents).

For radioactive materials transported under the Modified CMRR-NF Alternative, the maximum reasonably foreseeable offsite truck transportation accident with the greatest consequence would involve a truck carrying contact-handled transuranic waste. The probability that such an accident would occur is about 1 in 3.6 million (2.8×10^{-7}) per year in a suburban area. If such an accident occurs, the consequences in terms of general population dose would be 8 person-rem. Such an exposure would result in no (5×10^{-3}) excess LCFs among the exposed population. This accident would result in a dose of 8.2 millirem to a hypothetical MEI located at a distance of 330 feet (100 meters) and exposed to the accident plume for 2 hours, with a corresponding risk of developing a latent fatal cancer of 5×10^{-6} , or about 1 chance in 200,000.

Under this alternative, the estimated risks for all projected accidents involving radioactive shipments, regardless of type, are a maximum radiological dose-risk[20] to the general population of about

[20] Dose-risk includes the probability that an accident will occur. Here, these values were calculated by dividing the radiological risks in terms of LCFs given in Table 4–37 (column 9) by 0.0006, which is the risk of an LCF per person-rem of exposure.

0.2 person millirem, resulting in no (1×10^{-7}) excess LCFs, and a maximum nonradiological (traffic) accident risk of zero (7×10^{-3}) fatalities.

The maximum radiological transportation accident dose-risk to the general populations along the routes from LANL to Pojoaque and from Pojoaque to Santa Fe, New Mexico, would be 0.0067 person-millirem. This dose would result in no (4×10^{-9}) excess LCFs among the exposed populations. The maximum expected number of traffic accident fatalities along these routes would be 0 (4×10^{-4}).

The impacts of transporting nonradiological materials were also evaluated. These impacts are presented in terms of distance traveled and numbers of expected traffic accidents and fatalities. The following assumptions were made: asbestos would be disposed of at a facility in Phoenix, Arizona; hazardous waste would be disposed of at a facility in Andrews, Texas; and solid waste would be disposed of at Mountainair, New Mexico. As indicated in Table 4–36, only two shipments of hazardous materials would be made annually. The transportation under this alternative would result in 666 miles (1,100 kilometers) traveled, no (0.0002) traffic accidents, and no (0.00002) fatalities.

4.3.13.2 Traffic

Construction Impacts – Deep Excavation Option – Truck Traffic—Under the Deep Excavation Option, an additional 100 feet (30 meters) would be excavated during construction of the Modified CMRR-NF, as approximately 30 feet (9.1 meters) of the Modified CMRR-NF excavation have already been completed. Excavation of the additional 100 feet (30 meters) and the associated tunnels would require the removal of approximately 545,000 cubic yards (420,000 cubic meters), or approximately 900,000 tons (820,000 metric tons) of material. This amount of material would require approximately 45,000 20-ton truck trips or 30,000 30-ton truck trips to move. This material would be staged at a LANL materials staging area for future reuse on other LANL projects. Reuse of this material at LANL would directly offset the future need to transport purchased fill material from offsite locations, as is currently the case because of the limited amount of suitable fill material available within existing LANL borrow pits. Excavated soil and rock material from the Modified CMRR-NF would be transported by truck to spoils storage areas within TA-5, TA-36, TA-51, TA-52, or TA-54 in accordance with routine material reuse practices at LANL, and the excavated material (spoils) would ultimately be reused in various construction and landscaping projects at LANL.

As discussed under the No Action Alternative, each round trip to the LANL materials staging area would take approximately 20 minutes. Moving the material generated by excavation under the Deep Excavation Option would take approximately 450 10-hour shifts with one loader and 20-ton trucks or approximately 300 10-hour shifts with one loader and 30-ton trucks. This time period could be shortened by using two loaders and additional trucks. On a per-hour basis, these trips would make little difference to the level of service on Pajarito Road. The acceleration of the loaded earthwork trucks would be slow and would result in lower speeds and some reduction in the level of service in the road segment where the trucks accelerate. Pajarito Road is not accessible by the public.

The use of onsite concrete batch plants under the Deep Excavation Option would be required. The largest volume of concrete would be anticipated in the early years of the project as the 60 feet (18 meters) of low-slump concrete fill and the basemat and foundation of the building are constructed. It is not expected that the plants would be operated simultaneously. Depending on the quality of the concrete specified for the low-slump fill material, it may or may not be necessary to use concrete transit trucks for a trip this short. Regardless of whether concrete transit trucks or dump trucks are used to transport the concrete, the weight limit would be approximately 20 tons (18 metric tons) for three-axle trucks. Wet concrete weighs approximately 2 tons (1.8 metric tons) per cubic yard. Structural concrete for the shell of the Modified CMRR-NF would be conveyed from the batch plant to the site using concrete transit trucks.

Peak operation of the northeast (TA-48/55) concrete plant is expected during the first year of Modified CMRR-NF construction (2012), when the plant would be used to produce an estimated 250,000 cubic yards (190,000 cubic meters) of low-slump concrete that would be placed in the lower 60 feet (18 meters) of the Modified CMRR-NF excavation for soil stabilization (LANL 2010d).

If the peak operation of this concrete plant is 150 cubic yards (115 cubic meters) per hour and 20-ton trucks are used for transport, it would take approximately 170 10-hour shifts to transport 250,000 cubic yards (190,000 cubic meters) of concrete. This timeframe could be reduced to approximately 70 days with 24-hour operations.

Bulk concrete materials would be delivered to the Modified CMRR-NF batch plant site by either standard three-axle dump trucks (20-ton trucks) or five-axle bottom dump trucks (30-ton trucks).

To support the concrete batch plant operation for all concrete operations, the following materials would be required (LANL 2011a:Data Call Tables, 002):

- Approximately 313,000 tons (284,000 metric tons) of coarse aggregate (15,700 20-ton trucks or 10,400 30-ton trucks)
- Approximately 320,000 tons (290,000 metric tons) of fine aggregate (sand) (16,000 20-ton trucks or 10,700 30-ton trucks)
- Approximately 69,000 tons (63,000 metric tons) of cement (3,500 20-ton trucks or 2,300 30-ton trucks)
- Approximately 37,000 tons (34,000 metric tons) of fly ash (1,900 20-ton trucks or 1,200 30-ton trucks)

This operation would add a maximum of approximately 66 truck trips per hour to Pajarito Road. Current peak-hour traffic volume on Pajarito Road is anticipated to be 800 vehicles per hour (Level of Service D). The capacity of a two-lane roadway is approximately 2,400 trips per hour. The acceleration of the loaded concrete trucks would be slow and, with a distance of less than one-eighth of a mile for some of the loaded concrete trucks, would result in considerably lower speeds in this road segment. The section of Pajarito Road from the floor of the valley to the top of the mesa would also be impacted by the slow speed of loaded trucks climbing this hill. The addition of the truck trips hauling materials for concrete production is not expected to change the level of service on this road segment. This issue could be mitigated by adding a truck climbing lane on this stretch of roadway. During the construction period, climbing lanes could be warranted; however, this condition would be temporary, and truck deliveries could be scheduled to avoid peak traffic hours.

Construction under the Deep Excavation Option would also require the following amounts of steel (LANL 2011a:Data Call Tables, 002):

- Approximately 560 tons (510 metric tons) of structural steel (30 20-ton trucks or 20 30-ton trucks)
- Approximately 18,000 tons of concrete reinforcing steel (900 20-ton trucks or 600 30-ton trucks)

All construction supplies reaching the site must use Pajarito Road. All movement of excavated material from the Modified CMRR-NF to the internal storage areas must use Pajarito Road. The movement of large numbers of heavy trucks can damage the structure of existing pavement, reducing its lifespan and requiring repair or replacement. If the pavement structure is not sufficiently strong, the driving pavement can rut or crumble. The edges of existing pavements are vulnerable to crumbling if sufficient lateral support is not provided. The impacts on Pajarito Road’s structural integrity would be similar to those discussed under the No Action Alternative; however, there is a greater chance of structural damage to Pajarito Road under the Modified CMRR-NF Alternative due to the greater total weight of materials that would be transported on the roadway and the longer duration of transports. Pajarito Road may be sufficiently strong to support the transports without damage if the underlying soil is strong. Should damage occur to the roadway surface, Pajarito Road may require rehabilitation or repair sooner than currently anticipated.

Construction Impacts – Deep Excavation Option – Worker Traffic—The workers going to the Modified CMRR-NF are expected to use the public roadways. A peak of 790 workers is anticipated to commute to the parking area at TA-72 (LANL 2010d). For this analysis, the peak commuting time of these workers would align with the peak-hour traffic on the adjoining public roadways. Approximately 500 peak-hour trips are anticipated from a peak of 790 construction workers. These 500 additional peak-hour (worker) commuters were added to the existing traffic to determine the anticipated level of service. As shown in **Table 4–38**, the impacts on traffic were compared for the year 2012, the year that the Deep Excavation Option would start, and 2020, the year that construction would be completed under this alternative. No change in the level of service of roadways in the vicinity of LANL is anticipated during the construction period. In addition, the impacts of construction traffic would be minimal as it is anticipated that workers for the Modified CMRR-NF would park at the parking lot in TA-72 and would be bused to the worksite.

Table 4–38 Modified CMRR-NF Alternative — Expected Levels of Service of Roadways in the Vicinity of Los Alamos National Laboratory

Location	*Road Type and Number of Lanes*	*AADT/Year/ Percentage Trucks*	*Existing Traffic*		*Deep Excavation Option*		*Comments (assumed percentage of construction traffic assigned to road segment)(790 workers, 500 VPH peak)*
			AADT/ Peak Hour/ LOS	*AADT/ Peak Hour/ LOS*	*Peak Hour/ LOS*	*Peak Hour/ LOS*	
Year			*2012*	*2020*	*2012*	*2020*	
SR 4 at Los Alamos County Line to SR 501	Minor arterial/ two lanes	734/ 2009/9	760/80/A	840/80/A	130/A	130/A	(10) No change in LOS
SR 4 at Junction Bandelier Park Entrance	Minor arterial/ two lanes	681/ 2009/7	700/70/A	770/80/A	120/A	130/A	(10) No change in LOS
SR 4 at Junction of Pajarito Road – White Rock	Minor arterial/ two lanes	9,302/ 2009/9	9,580/ 960/D	10,580/ 1,060/D	1,410/D	1,510/D	(90) No change in LOS
SR 4 at Junction of Jemez Road	Minor arterial/ two lanes	9,358/ 2009/12	9,640/ 960/D	10,650/ 1,070/D	1,410/D	1,520/D	(90) No change in LOS
SR 501 at Junction of SR 4 to Diamond Drive	Minor arterial/ two lanes	11,848/ 2009/11	12,210/ 1,220/D	13,490/ 1,350/D	1,670/D	1,800/D	(50) No change in LOS
SR 501 at Junction of Diamond Drive and Onward	Primary arterial/ four lanes	21,211/ 2009/8	21,850/ 2,190/C	24,140/ 2,410/C	2,640/C	2,860/C	(90) No change in LOS
SR 501 at Junction 502	Primary arterial/ four lanes – divided	17,807/ 2009/8	18,350/ 1,840/C	20,270/ 2,030/C	1,940/C	2,130/C	(20) No change in LOS
SR 502 at Junction Openheimer Street	Primary arterial/ four lanes – divided	12,817/ 2009/6	13,210/ 1,320/C	14,590/ 1,460/C	1,420/C	1,560/C	(20) No change in LOS
SR 502 East of Junction with SR 4	Primary arterial/ four-lane freeway	6,341/ 2009/12	6,530/ 650/A	7,210/ 720/A	700/A	770/A	(10) No change in LOS

AADT = average annual daily traffic; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LOS = level of service; SR = State Road; VPH = vehicles per hour.

Construction Impacts – Shallow Excavation Option – Truck Traffic—The impacts of construction on peak-hour levels of service on public roadways adjoining LANL under the Shallow Excavation Option would be similar to those anticipated under the Deep Excavation Option. Construction under the Shallow Excavation Option would require the excavation and removal of 236,000 cubic yards (180,000 cubic meters), or 390,000 tons (350,000 metric tons) of material. This amount of material would require approximately 19,500 20-ton truck trips or 13,000 30-ton truck trips to move. As under the Deep Excavation Option, the material would be staged for future reuse on other LANL projects.

As discussed under the No Action Alternative, each round trip to the LANL materials staging area would take approximately 20 minutes. To move the material generated by excavation under the Shallow Excavation Option would take approximately 195 10-hour shifts with one loader and 20-ton trucks or approximately 130 10-hour shifts with one loader and 30-ton trucks. This time period could be shortened by using two loaders and additional trucks. As under the Deep Excavation Option, these trips would be make little difference to the level of service on Pajarito Road.

Compared to the Deep Excavation Option, there would be no need for a large volume of concrete for a building foundation subgrade replacement of the poorly welded tuff layer. This would reduce the number of trucks transporting concrete mix from the batch plant to the Modified CMRR-NF. While the total number of trucks would be reduced, the number of trucks in a peak hour is expected to remain the same. Thus, the impact on the roadway level of service would remain the same, although the duration of construction-related traffic would be reduced.

The same amount of steel would be required under the Shallow Excavation Option as under the Deep Excavation Option. To support the concrete batch plant operation under the Shallow Excavation Option for all concrete operations, the following materials would be required (LANL 2011a:Data Call Tables, 003):

- Approximately 120,000 tons (110,000 metric tons) of coarse aggregate (6,000 20-ton trucks or 4,000 30-ton trucks)
- Approximately 120,000 tons (110,000 metric tons) of fine aggregate (sand) (6,000 20-ton trucks or 4,000 30-ton trucks)
- Approximately 26,000 tons (24,000 metric tons) of cement (1,300 20-ton trucks or 900 30-ton trucks)
- Approximately 14,000 tons (13,000 metric tons) of fly ash (700 20-ton trucks or 500 30-ton trucks)

All supplies reaching the site must use Pajarito Road. The structural impacts on internal LANL roadways would be less under the Shallow Excavation Option than the Deep Excavation Option due to the lesser amount of concrete that would be needed to support construction.

Construction Impacts – Shallow Excavation Option – Worker Traffic—The peak number of workers going to the Modified CMRR-NF is expected to be approximately the same under the Shallow Excavation Option as under the Deep Excavation Option. The 790 additional (worker) commuters were added to the existing traffic to determine the anticipated level of service. The impacts on traffic were compared for the year 2012, the year that the Shallow Excavation Option construction would start, and 2020, the year that the Shallow Excavation Option construction would be completed. The results are the same as those shown for the Deep Option in Table 4–38. No change in the level of service of roadways in the vicinity of LANL is anticipated during the construction period. In addition, the impacts of construction traffic would be minimal because it is anticipated that workers for the Modified CMRR-NF would park at the parking lot in TA-72 and would be bused to the worksite.

Operations Impacts—Employees currently working at the existing CMR Building and other facilities at LANL are expected to occupy the Modified CMRR-NF. There would be no net increase in the number of employees at LANL as a result of operating the Modified CMRR-NF. Because no net increase in employees is anticipated to support Modified CMRR-NF operations under the Modified CMRR-NF Alternative, compared with employees supporting the existing CMR Building, there would be no significant impact on traffic or transportation on the public roadways external to LANL and the vehicle access portals. Those employees accessing the CMRR-NF from the east would have a shorter commute on the internal LANL roadway system and those employees accessing the CMRR-NF from the west would have a longer commute on the internal LANL roadway system. No change in the level of service of the internal LANL roadways impacted by these changes in commuting patterns is anticipated.

4.4 Environmental Impacts of the Continued Use of CMR Building Alternative

4.4.1 Continued Use of CMR Building Alternative

This section presents the environmental impacts associated with the Continued Use of CMR Building Alternative. Under this alternative, the existing CMR Building at TA-3 would continue operations with necessary maintenance and component replacements, as described in Chapter 2, Section 2.6.3. Under this alternative, there would be no construction of a new CMRR-NF. CMR Building operations and capabilities would continue to be restricted to levels necessary to maintain an acceptable level of risk to public and worker health and safety. In addition, operation of RLUOB would be included under this alternative, as well as the relocation of a number of people currently working in the CMR Building to RLUOB.

4.4.2 Land Use and Visual Resources

Operations Impacts—Because there would be no land disturbance (no construction) within TA-3 or TA-55 or anywhere else at LANL under this alternative, there would be no impact on land use or the visual environment. Furthermore, continued operation of the existing CMR Building and RLUOB would not change either the land use within or the appearance of TA-3 or TA-55.

4.4.3 Site Infrastructure

Operations Impacts—Projected site infrastructure requirements of CMR Building operations under the Continued Use of CMR Building Alternative are presented in **Table 4–39**. Current CMR Building operations are included in current site requirements and have already been accounted for in the current available site capacities for electricity and water (see Chapter 3, Table 3–3). The addition of RLUOB would add to these requirements under this alternative. As shown in Table 4–39, the combined requirements of the CMR Building and RLUOB make up less than 1 percent of the available site capacity for natural gas and 69 percent of the available site capacity for peak electrical load. Existing infrastructure should be capable of supporting these additional requirements without exceeding capacities. Thus, the net impact on infrastructure is expected to be minimal.

Table 4–39 Continued Use of CMR Building Alternative — Site Infrastructure Requirements for CMR Building and RLUOB Operations

Resource	*Available Site Capacity* [a]	*CMR Building Requirement* [b]	*RLUOB Requirement*	*Total Requirement* [b]	*Percentage of Available Site Capacity*
Electricity					
Energy (megawatt-hours per year)	513,000	No change	59,000	59,000	12
Peak load demand (megawatts)	16	No change	11	11	69
Fuel					
Natural gas (million cubic feet per year)	5,860	No change	38	38	0.6
Water (million gallons per year)	130	No change	7	7	5.4

CMR = Chemistry and Metallurgy Research; RLUOB = Radiological Laboratory/Utility/Office Building.
[a] A calculation based on the system-wide capacity (site-wide for water) minus the current site requirements
[b] The Continued Use of CMR Building Alternative is a continuation of current CMR activities and associated infrastructure requirements. The utilities at the CMR Building are not metered so there are no reliable estimates of utility usage. The values for the "Available Site Capacity" column account for the CMR Building utilities being in the site-wide totals.
Note: Values have been rounded. To convert cubic feet to cubic meters, multiply by 0.028317; gallons to liters, by 3.78533
Source: LANL 2011a:Data Call Tables, 005.

4.4.4 Air Quality and Noise

4.4.4.1 Air Quality

Operations Impacts—Air quality impacts associated with the continued operation of the existing CMR Building were analyzed under the No Action Alternative in the *CMRR EIS*. There would be no increases in emissions or air pollutant concentrations for nonradiological releases (DOE 2003b).

Operation of RLUOB would have minimal air quality impacts. Sources of emissions would occur from daily employee commutes and the testing of three emergency backup generators. Operational air pollutant emissions under this alternative would not exceed the allowable Prevention of Significant Deterioration increments for the Class I area in Bandelier National Monument. Nonradiological emissions for the criteria pollutants are estimated in **Table 4–40**.

Table 4–40 Continued Use of CMR Building Alternative — Nonradiological Operational Emissions of RLUOB

Criteria Pollutant	*Averaging Time*	*NMAAQS (parts per million)*	*Calculated Concentration (parts per million)*
Carbon monoxide	1 hour	13.1	0.002
	8 hours	8.7	0.001
Nitrogen dioxide	Annual	0.05	0.000065
Sulfur dioxide	3 hours	0.5 [a]	0.001
	24 hours	0.1	0.00014
	Annual	0.02	0.000029
PM_{10}	24 hours	150 μg/m³	0.025 μg/m³
Total Suspended Particulates	24 hours	150 μg/m³	0.025 μg/m³
	Annual	60 μg/m³	0.005 μg/m³

μg/m³ = micrograms per cubic meter; CMR = Chemistry and Metallurgy Research; NMAAQS = New Mexico Ambient Air Quality Standards; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers; RLUOB = Radiological Laboratory/Utility/Office Building.
[a] NMAAQS does not have a 3-hour sulfur dioxide standard; therefore, the Federal NAAQS standard is used.
Note: Values have been rounded.
Source: LANL 2011a:Data Call Tables, 005.

Radiological emissions, estimated at 0.00003 curies per year of actinides, could be released from the CMR Building operations. Impacts of these radiological releases are discussed in Section 4.4.10.

4.4.4.2 Greenhouse Gas Emissions

Operations Impacts—Operations at the CMR Building and RLUOB would release greenhouse gases from refrigerants and three backup generators at RLUOB, and employee commutes.[21] Greenhouse gas emissions from utilities (for example, electricity) do not occur directly on site. Total direct (Scope 1) greenhouse gas emissions, excluding electricity use, during normal operations of the existing CMR Building and RLUOB would be approximately 3,500 tons (3,200 metric tons) of carbon-dioxide equivalent per year (see **Table 4–41**). The current greenhouse gas inventory for LANL includes the existing CMR Building; therefore, continued operation of this building would not change the site's current greenhouse gas emissions.

Total greenhouse gases, including both indirect (Scope 2) and direct (Scope 1) emissions during operations of the existing CMR Building and RLUOB would be approximately 42,400 tons (38,500 metric tons) of carbon-dioxide equivalent per year (see Table 4–41). Greenhouse gas emissions for the continued use of CMR Building operating with the RLUOB would be approximately 10 percent of the total site-wide carbon-dioxide-equivalent emissions per year. These greenhouse gases emitted by operations under the Continued Use of CMR Building Alternative would add a relatively small increment to emissions of these gases in the United States and the world.

Table 4–41 Continued Use of CMR Building Alternative — CMR Building and RLUOB Operations Emissions of Greenhouse Gases

Emissions Scope	*Activity*	*Emissions (tons per year)*				
		CO_2	*CH_4 CO_2e*	*N_2O CO_2e*	*HFC CO_2e*	*Total CO_2e*
Scope 1 [a]	Refrigerants used	N/A	N/A	N/A	3,400	3,400
	Backup generator	95	0	0	N/A	95
Subtotal		95	0	0	3,400	3,500
Scope 2 [b]	Electricity use	38,700	11	160	N/A	38,900
Total		38,800	11	160	3,400	42,400

CMR = Chemistry and Metallurgy Research; CO_2 = carbon dioxide; CH_4 CO_2e = methane in carbon-dioxide equivalent; N_2O CO_2e = nitrous oxide in carbon-dioxide equivalent; CO_2e = carbon-dioxide equivalent; HFC CO_2e = hydrofluorocarbons in carbon-dioxide equivalent; N/A = not applicable; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Scope 1 sources include direct emissions by stationary sources owned or controlled by LANL.

[b] Scope 2 sources include indirect emissions from the generation of purchased electricity, where the emissions actually occur at sources off site and not at sources owned or controlled by LANL.

Note: Totals may not equal the sum of the contributions due to rounding. To convert tons to metric tons, multiply by 0.90718.

Direct greenhouse gas emissions at LANL are those described as Scope 1. There are no established thresholds for greenhouse gases, but in draft guidance issued February 18, 2010, the CEQ suggested that proposed actions that are reasonably anticipated to cause direct emissions of 27,600 tons (25,000 metric tons) or more of carbon-dioxide equivalent should be evaluated by quantitative and qualitative assessments. Together, the Scope 1 emissions under Continued Use of CMR Building Alternative would be approximately 3,500 tons (3,200 metric tons) of carbon-dioxide equivalent per year and are below the CEQ suggested evaluation level of 27,600 tons (25,000 metric tons) per year set for quantitative and qualitative assessments.

[21] Since there would be no new hires under this alternative, emissions from personnel commutes included in the baseline inventory are not included here.

4.4.4.3 Noise

Operations Impacts—Under this alternative, there would be no new construction or major changes in operations or employment levels. Thus, there would be no change in noise impacts under the Continued Use of CMR Building Alternative.

4.4.5 Geology and Soils

Operations Impacts—Geologic impacts associated with continued operations at the existing CMR Building would primarily consist of regional and local seismic hazards, including earthquakes and potential fault rupture, as summarized in Chapter 3, Section 3.5, and further detailed in the *CMRR EIS* (DOE 2003b) and the *LANL SWEIS* (DOE 2008a). In particular, core drilling studies and geologic mapping have established a number of secondary fault features at TA-3, including a high-angle, southwest-to-northeast-trending fault trace associated with the Rendija Canyon Fault Zone beneath the northern portion of the CMR Building. These fault studies indicate that 8 feet (2.4 meters) of fault displacement have occurred at the CMR Building site. Although the potential for ground deformation from fault rupture is relatively low, with a minimum recurrence interval of 4,000 years, the presence of identified fault structures in association with an identified active and capable fault zone (per 10 CFR Part 100, Appendix A) restricts the operational capability of the existing CMR Building without substantial upgrades and repairs. In addition, the volcanic hazards identified for the Modified CMRR-NF would be similar for the CMR Building at TA-3; impacts could result from ash and pumice falls, mudflows and flooding, seismic activity, lava flows, atmospheric effects and acid rains. Potential impacts from seismic events and from volcanic eruptions are addressed in Section 4.4.10.2, Facility Accidents, and Appendix C, Section C.4.1.

Under this alternative, there would be no additional impacts on geology and soils from operations of RLUOB at TA-55 under normal operating conditions.

4.4.6 Surface-Water and Groundwater Quality

Operations Impacts—There would be no impacts from operations on surface-water resources or groundwater quality under the Continued Use of CMR Building Alternative. Industrial and sanitary effluents would be discharged to sanitary sewer lines for treatment at the Sanitary Wastewater Systems Plant in TA-46. Spill prevention, countermeasures, and control procedures would be employed during operations and transmission of wastewaters from TA-3 and TA-55 to minimize the probability of, and the potential for, an unplanned release that could infiltrate and affect groundwater (LANL 2010d). Because the CMR Building in TA-3 and RLUOB in TA-55 are located on mesa tops and are remote from areas prone to flooding, no impacts on floodplains are expected.

4.4.7 Ecological Resources

Operations Impacts—There would be no new impact on terrestrial and aquatic resources, wetlands, or threatened and endangered species at LANL because no new facilities would be built under the Continued Use of CMR Building Alternative. The CMR Building and RLUOB would not produce emissions or effluent of a quality or at levels that would likely affect wildlife and other ecological resources.

4.4.8 Cultural and Paleontological Resources

Operations Impacts—There would be no impact on cultural resources because there would be no land disturbance (no construction) under the continued use of CMR Building Alternative. Further, continued operations at the existing CMR Building or RLUOB would not affect these resources within either TA-3, TA-55, or the site as a whole.

4.4.9 Socioeconomics

Operations Impacts—Under the Continued Use of CMR Building Alternative, the current employment of approximately 210 workers at the existing CMR Building would continue, although many of these workers may have their offices moved to RLUOB. RLUOB operations would also draw about 140 employees from other locations on the site. No new employment of workers would be required. Therefore, there would be no additional impact on the socioeconomic conditions around LANL under this alternative.

4.4.10 Human Health Impacts

4.4.10.1 Normal Operations

The inventory of radioactive material released in air emissions would be smaller under this alternative than under other alternatives. The inventory of radionuclides emitted under this alternative includes only actinides and none of the fission products and tritium that could be associated with a fully operating CMRR-NF. Emissions from RLUOB, which has a radiological laboratory, are expected to be a small fraction of those estimated to be released from the CMR Building and are not analyzed separately.

The air emissions would be in the form of plutonium, uranium, thorium, and americium isotopes. For conservatism in estimating the human health impacts, all emissions were considered to be plutonium-239 because the human health impacts on a per-curie basis are greater for plutonium-239 than for the other actinides associated with CMR Building activities. **Table 4–42** shows the annual collective dose to the general public living within 50 miles (80 kilometers) of the CMR Building, an average member of the public living within this radius, and an offsite MEI (a hypothetical member of the public residing at the LANL site boundary who receives the maximum dose).

Table 4–42 shows that the annual collective dose to the population living within a 50-mile (80-kilometer) radius of the CMR Building was estimated to be 0.016 person-rem under this alternative. This dose would increase the annual risk of a single latent fatal cancer in the population by 1×10^{-5}. Another way of stating this is that the likelihood that one fatal cancer would occur in the projected 2030 population of about 502,000 people from radiological releases associated with the CMR Building located at TA-3 is about 1 chance in 100,000 per year.

Table 4–42 Continued Use of CMR Building Alternative — Annual Radiological Impacts of CMR Building Operations on the Public

	Maximally Exposed Individual	*Population Within 50 Miles (80 kilometers)*	*Average Individual Within 50 Miles (80 kilometers)*
Dose	0.0023 millirem	0.016 person-rem	0.000032 millirem
Cancer fatality risk [a]	1×10^{-9}	1×10^{-5}	2×10^{-11}
Regulatory dose limit [b]	10 millirem	Not applicable	10 millirem
Dose as a percentage of regulatory limit	0.02	Not applicable	0.0003
Dose from background radiation [c]	480 millirem	240,000 person-rem	480 millirem
Dose as a percentage of background dose	0.0005	0.000005	0.000005

CMR = Chemistry and Metallurgy Research.
[a] Based on a risk estimate of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).
[b] 40 CFR Part 61, Subpart H, establishes an annual limit of 10 millirem via the air pathway to any member of the public from DOE operations. There is no standard for a population dose.
[c] The annual individual dose from background radiation at LANL is 480 millirem (see source of natural background radiation in Chapter 3, Section 3.11.1). The 2030 projected population living within 50 miles (80 kilometers) of TA-3 was estimated to be about 502,000.

The average annual dose to an individual in the population would be 0.000032 millirem under this alternative. The corresponding increased risk of an individual developing a fatal cancer from receiving the average dose would be 2×10^{-11} per year, or essentially zero.

The MEI would receive an estimated annual dose of 0.0023 millirem. This dose corresponds to an increased annual risk of developing a fatal cancer of 1×10^{-9}. In other words, the likelihood that the MEI would develop a fatal cancer is about 1 chance in 1 billion for each year of CMR Building operations.

Estimated annual doses to workers involved with CMR Building activities under this alternative are provided in **Table 4–43**. The estimated worker doses are based on historical exposure data for LANL workers and estimates for work to be performed at RLUOB (LANL 2011a:Data Call Tables, 004, 005). Based on the reported data, the average annual dose to a LANL worker who received a measurable dose was 93 millirem. A value of 100 millirem has been used as the estimate of the average annual worker dose per year of operations at the CMR Building.

The average annual worker dose of 100 millirem at the CMR Building and 20 millirem at RLUOB is well below the DOE worker dose limit of 5 rem (5,000 millirem) (10 CFR Part 835) and is significantly less than the recommended Administrative Control Level of 500 millirem (DOE 1999b). The CMR Building average annual dose corresponds to an increased risk of a fatal cancer of 6×10^{-5} per year. In other words, the likelihood that a CMR Building worker would develop a fatal cancer from work-related exposure is about 1 chance in 17,000 for each year of operations.

Table 4–43 Continued Use of CMR Building Alternative — Annual Radiological Impacts of CMR Building and RLUOB Operations on Workers

	Individual Worker	***Worker Population*** [a]
CMR Building dose/fatal cancer risk [b, c]	100 millirem / 6×10^{-5}	21 person-rem / 1×10^{-2}
RLUOB dose/fatal cancer risk [c]	20 millirem / 1×10^{-5}	2.8 person-rem / 2×10^{-3}
Total	Not applicable	24 person-rem / 1×10^{-2}
Dose limit [d, e]	5,000 millirem	Not applicable
Administrative control level [f]	500 millirem	Not applicable

CMR = Chemistry and Metallurgy Research; RLUOB = Radiological Laboratory/Utility/Office Building.
[a] Based on a worker population of approximately 210 for continued operations at the CMR Building and 140 for RLUOB after activities have transitioned to RLUOB.
[b] Based on the average dose to LANL workers who received a measurable dose in the period from 2007 to 2009. A program to reduce doses to as low as is reasonably achievable would be employed to reduce doses to the extent practicable.
[c] Based on a worker risk estimate of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).
[d] Dose limits and administrative control levels do not exist for worker populations.
[e] 10 CFR 835.202.
[f] DOE 1999b.

Based on a radiation worker population of approximately 350 under this alternative (210 for CMR Building and 140 for RLUOB), the estimated annual worker population dose would be 24 person-rem. This worker population dose would increase the likelihood of a fatal cancer within the worker population by 1×10^{-2} per year. In other words, on an annual basis, there is about 1 chance in 100 of one latent fatal cancer developing in the entire worker population as a result of exposures associated with this alternative. The average annual worker dose of about 68 millirem is well below the DOE worker dose limit of 5 rem (5,000 millirem) (10 CFR Part 835) and is significantly less than the recommended Administrative Control Level of 500 millirem (DOE 1999b). This average annual does corresponds to an increased risk of a latent fatal cancer of 0.00004 for each year of operations. In other words, the likelihood that a worker would develop a fatal cancer from annual work-related exposure is about 1 chance in 25,000.

Occupational injury and illness rates for normal operations under this alternative are projected to follow the patterns observed at LANL, as discussed in Chapter 3, Section 3.11.3. Using the worker population of 350, it is expected that the workers would experience about 9 TRCs and about 4 DART cases annually.

Hazardous Chemicals Impacts

No chemical-related health impacts would be associated with this alternative. As stated in the *LANL SWEIS*, the quantities of chemicals that could be released to the atmosphere during normal operations would be both minor and below the screening levels used to determine the need for additional analysis. There would be no construction and operational increase in the use of chemicals under this alternative. Workers would be protected from hazardous chemicals by adherence to OSHA and EPA occupational standards that limit concentrations of potentially hazardous chemicals.

4.4.10.2 Facility Accidents

This section presents a discussion of the potential health impacts on members of the public and workers from postulated accidents at the CMR Building. Under this alternative, the CMR Building and operations would remain unchanged from current limited operations.

Radiological Impacts

Radiological impacts from facility accidents at the CMR Building were evaluated in the *CMRR EIS*. Appendix C of the *CMRR EIS* and Appendix C of this *CMRR-NF SEIS* provide the methodology and assumptions used in developing facility accident scenarios and estimating doses to the general public within 50 miles (80 kilometers), the MEI, and an onsite worker near the facility. However, the material at risk within the CMR Building has been revised to reflect the reduced operating limits currently imposed in the facility due to safety and seismic concerns associated with the facility, as described below. The only other changes in the parameters used from those presented in Appendix C of the *CMRR EIS* are a new population distribution within 50 miles (80 kilometers) of the CMR Building projected to 2030 (projected to be about 502,000 persons), as well as a revised distance to the nearest offsite individual of 0.42 miles (0.67 kilometers) from the CMR Building. All other assumptions are consistent with those presented in Appendix C of the *CMRR EIS*. The doses presented in the *CMRR EIS* were calculated using MACCS2, Version 1.12. In this *CMRR-NF SEIS*, doses were estimated using MACCS2, Version 1.13.1, which corrected numerous known errors in the previous version of the code.

The accident scenarios in the *CMRR EIS* for the CMR Building were reviewed and compared with the accidents in the recent safety analysis documentation for the CMR Building (LANL 2011e) and with potential hazards from volcanic eruptions. For this existing building, the safety-basis scenarios and the NEPA scenarios are similar because they are based on the existing facility and the existing safety analyses. The principal differences between the safety-basis approach and the NEPA approach are the degrees of conservatism in the estimations of the material at risk, release mechanisms, damage ratios, fractions made airborne and respirable, and leak path factors. The safety-basis scenarios below assume damage ratios of 1.0, which are likely conservative by a factor of 10 or more. The fractions made airborne and respirable by the real-world stresses implied by these scenarios are also conservative. Because of the age and construction of the building, the NEPA scenarios would assume similar damage ratios and leak path factors to those of the safety-basis scenarios, and no separate analyses are provided. It is estimated that real-world releases for any of these CMR Building accident scenarios would be somewhat lower than these safety-basis estimates. Operational practices and limits at the CMR Building limit the potential consequences of these accidents by limiting the material at risk within the building.

Tables 4–44 and **4–45** provide the revised population doses and risks from facility accidents. Table 4–44 presents the frequencies and consequences of a postulated set of accidents for the public, represented by the MEI and the general population living within 50 miles (80 kilometers) of the CMR Building, and a noninvolved worker located at the technical area boundary, a distance of 300 yards (280 meters) from the CMR Building. Table 4–45 presents the cancer risks, obtained by multiplying each accident's consequences by the upper limit on the likelihood (frequency per year) that the accident would occur.

Table 4–44 Continued Use of CMR Building Alternative — Accident Frequency and Consequences

Accident	Frequency (per year)	Maximally Exposed Individual		Offsite Population [a]		Noninvolved Worker at TA Boundary	
		Dose (rem)	Latent Cancer Fatality [b]	Dose (person-rem)	Latent Cancer Fatalities [c]	Dose (rem)	Latent Cancer Fatality [b]
Wing-wide fire [d]	0.01	0.26	0.0002	140	0 (0.09)	0.65	0.0004
Seismically induced spill	0.01	2.2	0.001	580	0 (0.4)	21	0.03
Seismically induced spill and fire [e]	0.0001	4.3	0.003	1,200	1 (0.7)	42	0.05
Loading-dock spill/fire	0.01	0.07	0.00004	11	0 (0.007)	0.69	0.0004

CMR = Chemistry and Metallurgy Research; TA = technical area.
[a] Based on a projected 2030 population estimate of about 502,000 persons residing within 50 miles (80 kilometers) of TA-3.
[b] Increased likelihood of an LCF for an individual if the accident occurs.
[c] Increased number of LCFs for the offsite population if the accident occurs (results rounded to 1 significant figure). When the reported value is zero, the result calculated by multiplying the collective dose to the population by the risk factor (0.0006 LCFs per person-rem) is shown in parentheses.
[d] A major fire involving two wings.
[e] In the seismically induced spill and fire accident, two sequential events are considered; first, the seismic spill occurs, then releases of material outside the building occur due to the fire.

Table 4–45 Continued Use of CMR Building Alternative — Annual Accident Risks

Accident	Risk of Latent Cancer Fatality		
	Maximally Exposed Individual [a]	Offsite Population [b, c]	Noninvolved Worker at TA Boundary [a]
Wing-wide fire [d]	2×10^{-6}	9×10^{-4}	4×10^{-6}
Seismically induced spill	1×10^{-5}	4×10^{-3}	3×10^{-4}
Seismically induced spill and fire [e]	3×10^{-7}	7×10^{-5}	5×10^{-6}
Loading-dock spill/fire	4×10^{-7}	7×10^{-5}	4×10^{-6}

CMR = Chemistry and Metallurgy Research; TA = technical area.
[a] Risk of increased likelihood of an LCF to the individual.
[b] Risk of increased number of LCFs for the offsite population.
[c] Based on a projected 2030 estimated population of about 502,000 persons residing within 50 miles (80 kilometers) of TA-3.
[d] A major fire involving two wings.
[e] In the seismically induced spill and fire accident, two sequential events are considered; first, the seismic spill occurs, then releases of material outside the building occur due to the fire.

The accident with the highest potential risk to the offsite population (see Table 4–45) would be an earthquake that would severely damage the CMR Building, resulting in a seismically induced spill of radioactive materials with an annual risk of an LCF for the offsite MEI of 1×10^{-5}. In other words, the offsite MEI's likelihood of developing a latent fatal cancer from this event is about 1 chance in 100,000. This accident would increase the risk of a single LCF in the entire population by 4×10^{-3} per year. In other words, the likelihood of one fatal cancer in the entire population from this event would be about 1 chance in 250 per year. Statistically, the radiological risk for the average individual in the population would be small. The risk of an LCF to a noninvolved worker located at a distance of 300 yards (280 meters) from the CMR Building would be 3×10^{-4}, or about 1 chance in 3,333 per year.

Land contamination—A severe seismic event that results in the failure of building containment also has the potential to release sufficient quantities of plutonium that could lead to land contamination near the facility. Even for the severe earthquakes that result in major damage to the building structure and failure of confinement systems, there should not be large energy sources to drive the materials that would typically be used in the CMR Building, such as plutonium metal and oxides, out of the damaged building and rubble. Seismic collapse scenarios that result primarily in spills could release plutonium materials through the rubble, but that material would not generally go far from the building site. Seismic collapse scenarios that involve large fires have the potential to loft materials such that transport of radioactive materials downwind might result in land contamination at levels that could require monitoring or additional actions.

The Continued Use of CMR Building SEIS scenarios involving a seismically induced spill or a seismically induced spill and fire were modeled to evaluate the potential extent of land that might be contaminated above a screening level of 0.2 microcuries per square meter.[22] Estimates of land area that might be contaminated are highly dependent on specific accident source terms and metrological modeling assumptions. This is because the amount of radioactive material that may accumulate on the ground is highly dependent on the size of the particles that get through the building rubble and are released to the environment (which determines how fast they settle back to the ground), specific accident conditions (for example, presence of a fire), and specific meteorological conditions at the time of the earthquake (for example, high winds). In general, unless there is a fire that can effectively loft the plutonium particles into the air, most of the particles would return to the ground within a few hundred yards of the building location. In the event of a seismically induced spill followed by a large fire at the CMR Building, the heat energy could effectively raise the release height such that ground contamination at the screening level could extend out to approximately 6.2 miles (10 kilometers) from TA-3, depending in large part on the meteorological conditions at the time of the accident.

Areas contaminated above a specified screening level (for example, 0.2 microcuries per square meter) would require further action, such as radiation surveys or cleanup. Costs associated with radiation surveys, cleanup, and continued monitoring could vary widely depending upon the characteristics of the contaminated area and could range in the hundreds of million dollars per square kilometer for land decontamination (NASA 2006). In addition to the potential direct costs, there are potential secondary societal costs associated with the mitigation from such high-consequence accidents. Those costs could include, but may not be limited to, the following:

- Temporary or longer-term relocation of residents
- Temporary or longer-term loss of employment
- Destruction or quarantine of agricultural products
- Land-use restrictions (which could affect real estate values, businesses, and recreational activities)
- Public health effects and medical care

[22] *This* CMRR-NF SEIS *uses a plutonium areal concentration of 0.2 microcuries per square meter as a screening level for determining the lateral extent of contamination that might require cleanup actions (Chanin 1996). This screening level was first proposed by EPA in the late 1970s, but never formally adopted. It has been used in many environmental impact statements to indicate land areas that would or would not likely require remedial actions.*

Dose Impacts from Common Failure Mode Seismic Event—If a severe earthquake were to occur in the Los Alamos area, individuals close to and downwind from the CMR Building and TA-55 might receive exposure from releases of radioactive materials from both buildings. In the *LANL SWEIS*, a site-wide seismic event that corresponded to approximately a PC-3 earthquake[23] resulted in estimated doses from the Plutonium Facility (TA-55-4), the Storage Facility (TA-55-185), and the Safe, Secure Transport Facility (TA-55-355) of 160 rem to the MEI and 14,880 person-rem to the population residing within 50 miles (80 kilometers) of TA-55. About 150 rem of the dose to the MEI was estimated to be from the TA-55 Plutonium Facility, the remaining 10 rem was from the other two facilities.

Under the Continued Use of CMR Building Alternative, the MEI doses from the seismically induced spill or seismically induced spill plus fire for the SEIS scenarios are estimated to be about 2 to 4 rem. Making the conservative assumption that the same MEI affected by releases from the TA-55 area could be affected by releases from the CMR Building, the corresponding doses would be additive. The upgrades to the TA-55 Plutonium Facility are ongoing, but the seismic upgrades will not be completed for a number or years (less than 10) (see Section 4.3.10.2). Prior to completion of the upgrades, the combined doses would be those included in the *LANL SWEIS*, plus the doses from the CMR Building – up to about 164 rem to the MEI and up to 16,100 person-rem to the population for a seismically induced spill plus fire. Once the TA-55 Plutonium Facility upgrades are complete, the dose to the MEI would be about 23 rem and the estimated dose to the population within 50 miles (80 kilometers) of LANL would be about 5,700 person-rem. For the MEI, this analysis takes into account the revised MEI dose of 19 rem (9 rem from the revised 2011 safety basis for the TA-55 Plutonium Facility and 10 rem for releases from other facilities at TA-55, per the 2008 *LANL SWEIS*). Given a severe seismic event accompanied by a fire, these doses represent a probability of the MEI developing a fatal cancer from this dose of 0.03, or approximately 1 chance in 33, and it is expected to result in up to 3 LCFs in the exposed population surrounding the site.

Involved Worker Impacts

The impacts on involved workers are very dependent on the type of accident, the severity of the accident, the location of workers, and protective action taken. Approximately 210 workers would be at the CMR Building during operations in the event of an accident. Any workers near an accident could be at risk of serious injury or death. Following initiation of accident and site emergency alarms, workers in adjacent areas of the facility would evacuate the area in accordance with technical area and facility emergency operating procedures and training.

Hazardous Chemicals and Explosives Impacts

Some of the chemicals used in the CMR Building are both toxic and carcinogenic. The quantities of the regulated hazardous chemicals and explosive materials stored and used in the facility are well below the threshold quantities set by EPA (40 CFR Part 68) and pose minimal potential hazards to the public health and the environment in an accident condition. These chemicals are stored and handled in small quantities (10 to a few hundred milliliters) and would only be a hazard to the involved worker under accident conditions.

[23] *The estimated dose consequences included in the* LANL SWEIS *(DOE 2008b) were based on a PC-3 seismic event with a return period of 2,000 years and a peak horizontal ground acceleration of approximately 0.31 g (the current PC-3 seismic event return period is 2,500 years). The* 2007 Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory *(LANL 2007a) had been recently issued and an evaluation of the effects of the new data on LANL facilities was just getting underway. The consequences of a current PC-3 seismic event likely would be higher than estimated in the* LANL SWEIS.

4.4.10.3 Intentional Destructive Acts

Analysis of the impacts of terrorist incidents on operations of the CMR Building is presented in a classified appendix to this *CMRR-NF SEIS*. The impacts of some terrorist incidents would be similar to the accident impacts described earlier in this section, while some terrorist incidents may have more severe impacts. A description of how NNSA assesses the vulnerability of its sites to terrorist threats and then designs its response systems is in Section 4.2.10.3.

4.4.11 Environmental Justice

Operations Impacts—Population estimates of the entire population and minority and low-income subsets of the population have been projected to the year 2030 (see Section 4.4.10.1 and Chapter 3, Section 3.10). Consistent with the human health analysis, impacts were analyzed on the potentially affected populations within 50 miles (80 kilometers) of TA-3. In addition, impacts on populations in close proximity were analyzed at additional radial distances of 5, 10, and 20 miles (8, 16, and 32 kilometers).

Table 4–46 shows the impacts on the total and subset populations within 5, 10, and 20 miles (8, 16, and 32 kilometers) of the existing CMR Building at TA-3. The total population within 5 miles (8 kilometers) of the CMR Building is projected to receive a dose of approximately 0.0088 person-rem and an average individual dose of 0.00071 millirem, annually. Within 5 miles (8 kilometers) of the CMR Building, both the average annual dose to an individual of the minority population (0.00076 millirem) and the average annual dose to an individual of the Hispanic population (0.00075 millirem) would be higher than the average annual dose to a member of the total population (0.00071 millirem). Annual doses estimated for all individuals would be very small and similar to the dose to the average individual of the total population (0.00071 millirem per year). This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 4.1×10^{-10}, or about 1 chance in 2.4 billion, annually.

Table 4–46 Continued Use of CMR Building Alternative — Comparison of Annual Doses to Total Minority, Hispanic, Native American, and Low-Income Populations Within 5, 10, and 20 Miles (8, 16, and 32 kilometers) and to Average Individuals (in 2030)

	5 Miles (8 kilometers)		*10 Miles (16 kilometers)*		*20 Miles (32 kilometers)*	
	Population (person-rem)	*Average Individual (millirem)*	*Population (person-rem)*	*Average Individual (millirem)*	*Population (person-rem)*	*Average Individual (millirem)*
Total population	0.0088	0.00071	0.010	0.00049	0.011	0.00018
Nonminority population	0.0055	0.00069	0.0061	0.00048	0.0064	0.00031
Total minority population	0.0033	0.00076	0.0037	0.00050	0.0050	0.00012
Hispanic population [a]	0.0017	0.00075	0.0019	0.00049	0.0030	0.000090
Native American population	0.000066	0.00069	0.00015	0.00017	0.00027	0.000063
Non-low-income population	0.0085	0.00071	0.0094	0.00049	0.011	0.00020
Low-income population	0.00027	0.00071	0.00032	0.00038	0.00057	0.000077

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility.

[a] The Hispanic population includes all Hispanic persons, regardless of race.

Doses to persons living below the poverty level are also presented in Table 4–46. The average annual dose to an individual, whether below or above the poverty level, would be 0.00071 millirem; this dose represents an increased risk of developing a latent fatal cancer of 4.2×10^{-10}, or about 1 chance in 2.4 billion, annually.

The total population within 10 miles (16 kilometers) of the CMR Building is projected to receive an annual dose of approximately 0.010 person-rem; the average individual dose is projected to be 0.00049 millirem, annually. Within 10 miles (16 kilometers) of TA-3, the average annual dose to a member of the minority would be 0.00050 millirem, compared to an average dose of 0.00048 millirem to a member of the nonminority population or 0.00049 millirem to a member of the total population. A member of the low-income population would receive an average annual dose of about 0.00038 millirem. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.3×10^{-10}, or about 1 chance in 4.3 billion, annually.

The total population within 20 miles (32 kilometers) of the CMR Building is projected to receive an annual dose of approximately 0.011 person-rem; the average individual dose is projected to be 0.00018 millirem, annually. The average annual dose to a member of the nonminority population (0.00031 millirem) would be higher than the average annual dose to a member of the total population (0.00018 millirem). This dose to the nonminority average individual is very small and represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.1×10^{-11}, or 1 chance in about 9.1 billion, annually. The average annual individual dose to other population subsets would be lower than the average dose to members of the nonminority population. The average annual dose to a member of the low-income population within 20 miles (32 kilometers) of the CMR Building would be lower than the average annual dose to a member of the non-low-income population or the total population.

As shown in **Table 4–47**, the total population within 50 miles (80 kilometers) of the CMR Building under the Continued Use of CMR Building Alternative is projected to receive a dose of approximately 0.016 person-rem and an average individual dose of 0.000032 millirem, annually.

The population subset of nonminority individuals would receive the highest average dose, 0.000039 millirem, annually. This dose is very small and represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.3×10^{-11}, or 1 chance in about 43 billion, annually. Doses also were estimated for the following population subsets: all (total) minorities, Native Americans, and Hispanics of any race. The total minority population is expected to receive a collective dose of 0.0079 person-rem and average individual dose of 0.000027 millirem, annually. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.6×10^{-11}, or about 1 chance in 61 billion, annually. Native Americans living within 50 miles (80 kilometers) of the CMR Building would receive a collective dose of 0.00048 person-rem and an average individual dose of 0.000018 millirem, annually. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.1×10^{-11}, or about 1 chance in 90 billion, annually. The Hispanic population would receive a collective dose of 0.0055 person-rem annually; the annual average dose to a member of the Hispanic population would be 0.000024 millirem. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.4×10^{-11}, or about 1 chance in 70 billion, annually.

Table 4–47 Continued Use of CMR Building Alternative — Comparison of Annual Doses to Total Minority, Hispanic, Native American, and Low-Income Populations Within 50 Miles (80 kilometers) and to Average Individuals (in 2030)

	Population (person-rem)	*Average Individual (millirem)*
Total population	0.016	0.000032
Nonminority population	0.0084	0.000039
Total minority population	0.0079	0.000027
Hispanic population [a]	0.0055	0.000024
Native American population	0.00048	0.000018
Non-low-income population	0.015	0.000034
Low-income population	0.0012	0.000019

CMR = Chemistry and Metallurgy Research.
[a] The Hispanic population includes all Hispanic persons, regardless of race.

Population doses to persons living below the poverty level are also analyzed in Table 4–47. Low-income populations surrounding TA-3 would receive an annual dose of 0.0012 person-rem and an annual average individual dose of 0.000019 millirem. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 1.1×10^{-11}, or about 1 chance in 88 billion, annually. Persons living above the poverty level would receive an annual collective dose of 0.015 person-rem and an annual average individual dose of 0.000034 millirem. This dose represents an increased risk to the exposed individual of developing a latent fatal cancer of 2.1×10^{-11}, or about 1 chance in 49 billion, annually.

These data show that the dose to all population subsets surrounding TA-3 at radial distances of 5, 10, 20, and 50 miles (8, 16, 32, and 80 kilometers) would be small and would not result in adverse impacts on human health. Within all radial distances analyzed, the highest population dose projected is to the nonminority population. The average annual individual dose to the minority population and the Hispanic population slightly exceeds that to the nonminority population within the 5- and 10-mile (8- and 16-kilometer) radial distances; however, there is no appreciable difference between projected doses. Within the 20- and 50-mile (32- and 80-kilometer) radial distances from the CMR Building, the dose to the average individual of the nonminority population is projected to be slightly higher than the projected dose to the average individual in the minority population.

A special pathways receptor analysis was performed in support of the 2008 *LANL SWEIS*. In this analysis, it was determined that a special pathways receptor who consumed increased amounts of fish, deer, and elk from the areas surrounding LANL and drank surface water and Indian tea (Cota) along with other potentially contaminated foodstuffs could receive an additional dose of up to 4.5 millirem per year from these special pathways (see Appendix C, Section C.1.4 of the 2008 *LANL SWEIS* [DOE 2008a]). Doses associated with normal operation of the CMR Building would not be expected to increase the dose from these special pathways. Therefore, if the MEI associated with this *CMRR-NF SEIS* were also assumed to be a special pathways receptor, the maximum dose would continue to be about 4.5 millirem per year. This dose is low; it would represent an increase of about 1 percent above the approximately 480 millirem that a person residing near LANL would normally receive annually from natural background radiation. In terms of increased risk of a fatal cancer from the special pathways dose plus the dose from normal operations of the CMRR-NF, it would represent an annual estimated risk of 3×10^{-6} or about 1 chance in 333,000.

Nonradiological air quality impacts are discussed in Section 4.4.4.1. There would be no increases in emissions or air pollutant concentrations for nonradiological releases due to CMR Building or RLUOB operations under the Continued Use of CMR Building Alternative. Nonradiological emissions would remain well below the ambient standards established to protect human health. Therefore, the impact of potential nonradiological air pollutant releases on minority or low-income individuals under this alternative would be considered minor.

Potential impacts on cultural resources at LANL are discussed in Section 4.4.8. Operations under the Continued Use of CMR Building Alternative would not affect resources in TA-55, TA-3, or the site as a whole. Therefore, there are no adverse impacts on cultural resources at LANL from implementing this alternative.

Residents of the Pueblo of San Ildefonso have expressed concern that pollution from CMRR Facility operations could contaminate Mortandad Canyon, which drains onto pueblo land and sacred areas. CMRR Facility operations under this alternative are not expected to adversely affect air or water quality or result in contamination of tribal lands adjacent to the LANL boundary. Impacts on surface-water and groundwater quality are discussed in Section 4.4.6.

As discussed in Section 4.4.13, there are not expected to be any significant impacts on transportation routes or traffic within the ROI from implementing this alternative.

These data show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse dose impacts from normal operations under the Continued Use of CMR Building Alternative.

4.4.12 Waste Management and Pollution Prevention

Operations Impacts –The projected annual waste volumes from the CMR Building and RLUOB are listed in **Table 4–48** for transuranic and mixed transuranic wastes, low-level and mixed low-level radioactive wastes, and chemical wastes. The projected volumes for the CMR Building are based on average waste generation rates for the CMR Building for the years 2004 through 2008, while the projected volumes for RLUOB are the same as those shown in Section 4.3.12. (The projected volumes for the CMR Building are smaller than the volumes for these wastes projected for operation of the CMR Building under all alternatives in the 2008 *LANL SWEIS* [DOE 2008a]). The CMR Building and RLUOB are designed and operated to accommodate these waste volumes, and no difficulty in managing these volumes for onsite disposal or shipment for offsite disposition is expected on either a CMR Building and RLUOB or LANL site-wide basis.

Radioactive and Chemical Waste

Since the total radioactive and chemical waste volumes listed in Table 4–48 are all smaller than the volumes projected in Section 4.3.12 for the combination of the Modified CMRR-NF and RLUOB and in Section 4.3.12, it was concluded that there would be no significant impacts on available treatment, storage, or disposal capacity expected for the analyzed onsite and offsite waste disposition facilities, a similar conclusion can be made for this alternative.

Table 4–48 Continued Use of CMR Building Alternative — Operational Waste Generation Rates Projected for CMR Building, RLUOB, and Los Alamos National Laboratory Activities

Waste	*CMR Building*	*RLUOB*	*Total*	*Site-wide LANL Projections*
Transuranic and mixed transuranic (cubic yards per year)	8.2	0	8.2	440 to 870 [a]
Low-level radioactive (cubic yards per year)	190	130	310	21,000 to 115,000 [a]
Mixed low-level radioactive (cubic yards per year)	1.8	2.3	4.1	320 to 18,100 [a]
Sanitary solid (tons per year) [b]	36	24	60	– [c]
Sanitary wastewater (gallons per year)	2,730,000	2,490,000	5,220,000	156,000,000 [d]
Liquid low-level radioactive (gallons per year)	67,600	95,800	163,000	4,000,000 [e]
Chemical (tons per year) [f]	0.88	0.50	1.4	3,200 to 5,750 [a]

CMR = Chemistry and Metallurgy Research; RLUOB = Radiological Laboratory/Utility/Office Building.

[a] Projected waste quantities from LANL operations are given as a range in the *LANL SWEIS* (DOE 2008a). The listed value reflects the assumption of the Expanded Operations Alternative in the *LANL SWEIS*, less the waste projected from some activities that were not implemented (see Table 4–57).

[b] The projected quantity of CMR Building and RLUOB sanitary solid waste (municipal trash) was estimated by multiplying the projected annual number of full-time equivalent radiation workers (140 for RLUOB and 210 for CMR Building) by an assumed annual 344 pounds (156 kilograms) of waste generated per person per year (see Chapter 3, Section 3.12.2).

[c] Annual sanitary solid waste quantities were not projected in the 2008 *LANL SWEIS*.

[d] The value shown is the annual volume of wastewater processed at the Sanitary Wastewater Systems Plant in TA-46, assuming operation at its 600,000-gallon-per-day (2.27-million-liter-per-day) design capacity for 260 working days per year (DOE 2003b). Sanitary wastewater and nonradioactive liquid waste are both projected to be routed to the Sanitary Wastewater Systems Plant for treatment.

[e] The value shown is the projected annual liquid low-level radioactive waste treatment rate at RLWTF assuming implementation of the No Action Alternative in the 2008 *LANL SWEIS*; annual treatment of 30,000 gallons of liquid transuranic waste was also projected (DOE 2008a).

[f] Chemical waste is not a formal LANL waste category; however, as was done in the 2008 *LANL SWEIS* (DOE 2008a), the term is used in this *CMRR-NF SEIS* to denote a broad category of materials, including hazardous wastes, toxic wastes, and special waste designated under the New Mexico Solid Waste Regulations.

Note: Totals may not equal the sum of the contributions due to rounding. To convert cubic yards to cubic meters, multiply by 0.76456; tons to metric tons, by 0.90718; gallons to liter, by 3.78533.

Source: DOE 2008a; LANL 2007d, 2009a, 2010a.

Sanitary Solid Waste

The CMR Building employs approximately 210 workers (LANL 2011a:LANL site, 023). If each employee generates 344 pounds (156 kilograms) of sanitary solid waste (municipal trash) (see Chapter 3, Section 3.12.2), the CMR Building would generate about 36 tons (33 metric tons) of sanitary solid waste annually. In addition, about 24 tons (22 metric tons) of sanitary solid waste are projected to result from RLUOB operations annually, or about 60 tons (54 metric tons) from both facilities. This waste would be collected in appropriate waste containers, such as dumpsters, and would be regularly disposed of or recycled by transfer to the Los Alamos County Eco Station located at the Los Alamos County Landfill site within the LANL boundary or by transfer to an offsite solid waste facility permitted to accept the waste. No impacts on available solid waste management capacity are expected because of the small quantity of sanitary solid waste to be managed from CMR Building and RLUOB operations compared to the total quantities of solid waste annually addressed on a county and state basis and the large number of available waste disposition facilities within New Mexico. The annual sanitary solid waste generation from both facilities would represent less than 1 percent of the waste processed in 2009 at the Los Alamos County Eco Station.

Sanitary Wastewater

Under the Continued Use of CMR Building Alternative, the CMR Building would continue to generate sanitary liquid wastewater that would be piped to the Sanitary Wastewater Systems Plant in TA-46 for treatment. Treated wastewater would be pumped to TA-3 to be either recycled at the TA-3 power plant (as makeup water for the cooling towers) or discharged into Sandia Canyon via permitted outfall number 001 (LANL 2010a). The CMR Building sanitary wastewater generation rate is projected to be 2,730,000 gallons (10,000,000 liters) for 260 days per year, assuming that 210 workers each generate 50 gallons (190 liters) of wastewater per day (DOE 2003b). The RLUOB sanitary wastewater generation rate is estimated to be 2,490,000 gallons (9,410,000 liters) per year. The combined wastewater generation rate from both facilities is thus about 5,220,000 gallons (20,000,000 liters) per year. The daily generation rate would represent about 3 percent of the 600,000-gallon (2.3-million-liter) -per day design capacity of the Sanitary Wastewater Systems Plant (DOE 2003b). Therefore, no impacts on available sanitary wastewater treatment capacity are expected from CMR Building and RLUOB operations.

Nonradioactive Liquid Waste

The CMR Building would continue to generate industrial wastewater, and it is expected that this wastewater would continue to be transferred to the Sanitary Wastewater Systems Plant for treatment. If the CMR Building continues to generate a few hundred thousand gallons of industrial wastewater annually (see Chapter 3, Section 3.12.1.4), no impacts on Sanitary Wastewater Systems Plant treatment capacity are expected. Similarly, the small quantities of nonradioactive liquid waste that might be generated at RLUOB would be routed to the Sanitary Wastewater Systems Plant for treatment.

Radioactive Liquid Waste

The CMR Building would continue to generate radioactive liquid waste that would be piped for treatment to RLWTF in TA-50. About 67,600 gallons (256,000 liters) per year of liquid low-level radioactive waste have been projected for CMR Building operations and little or no liquid transuranic waste (Balkey 2011). In addition, about 95,800 gallons (363,000 liters) of liquid low-level radioactive waste and no liquid transuranic waste are annually projected from RLUOB operations. About 163,000 gallons (617,000 liters) per year of liquid low-level radioactive waste and little or no liquid transuranic waste are projected from both facilities. The projected volume would represent about 4 percent of the projected RLWTF treatment rate in the 2008 *LANL SWEIS* (under the *LANL SWEIS* No Action Alternative) (DOE 2008a). No impacts on radioactive liquid waste treatment and discharge capacity are expected from CMR Building and RLUOB operations.

4.4.13 Transportation and Traffic

4.4.13.1 Transportation

Routine (Incident-Free) Transportation

Operations Impacts—**Table 4–49** summarizes the total transportation impacts, as well as transportation impacts on two nearby LANL transportation routes: LANL to Pojoaque, New Mexico, the route segment used by trucks from LANL, and Pojoaque to Santa Fe, New Mexico, the route segment used by trucks traveling on Interstate 25 (such as trucks traveling to WIPP). As stated in Section 4.3.13.1, for analysis purposes in this *CMRR-NF SEIS*, two sites, the NNSS and a commercial facility in Utah, were selected as possible disposal sites for all low-level radioactive waste should the decision be made to dispose of low-level radioactive waste off site. Differences in distance to these two sites and the affected population along the transportation routes result in a range of impacts under each alternative.

Table 4–49 Continued Use of CMR Building Alternative — Annual Risks of Transporting Operational Radioactive Materials

Transport Segments	Offsite Disposal Option [a]	Number of Shipments	Round Trip Kilometers Traveled (thousands)	Incident-Free				Accident	
				Crew		Population			
				Dose (person-rem)	Risk [b]	Dose (person-rem)	Risk [b]	Radiological Risk [b]	Nonradiological Risk [b]
LANL to Pojoaque	NNSS	24	1.5	0.009	5×10^{-6}	0.003	2×10^{-6}	5×10^{-10}	3×10^{-5}
Pojoaque to Santa Fe		24	2.5	0.02	1×10^{-5}	0.005	3×10^{-6}	3×10^{-10}	5×10^{-5}
Total Route		24	57	0.3	2×10^{-4}	0.1	6×10^{-5}	1×10^{-8}	9×10^{-4}
LANL to Pojoaque	Commercial	24	1.5	0.009	5×10^{-6}	0.003	2×10^{-6}	5×10^{-10}	3×10^{-5}
Pojoaque to Santa Fe [c]		2	0.2	0.004	2×10^{-6}	0.001	8×10^{-7}	2×10^{-10}	4×10^{-6}
Total Route		24	50	0.3	2×10^{-4}	0.09	5×10^{-5}	1×10^{-8}	8×10^{-4}

CMR = Chemistry and Metallurgy Research; LANL = Los Alamos National Laboratory; NNSS = Nevada National Security Site.

[a] Under this option, low-level and mixed low-level radioactive waste would be shipped to either the NNSS or a commercial site in Utah. Transuranic waste would be shipped to the Waste Isolation Pilot Plant.

[b] Radiological risk is expressed in terms of latent cancer fatalities, while nonradiological risk is expressed in terms of the calculated number of traffic accident fatalities.

[c] Shipments of low-level radioactive waste to a commercial disposal site in Utah would not pass along the Pojoaque to Santa Fe segment of highway.

Note: Due to rounding, the risk values may differ slightly from those calculated by multiplying the reported dose times the dose factor of 0.0006 LCFs per rem. To convert kilometers to miles, multiply by 0.62137.

Under this alternative, about 24 offsite shipments of radioactive materials would be made annually to the NNSS in Nevada (or a commercial site in Utah) and WIPP in New Mexico. Maximum transportation impacts would be realized if low-level radioactive waste and mixed low-level radioactive waste were shipped to either the NNSS in Nevada or a commercial site in Utah instead of being disposed of on site. Transuranic waste would be shipped to WIPP. The total projected (one-way) distance traveled on public roads transporting radioactive materials to various locations would range from about 15,500 to 17,700 miles (25,000 to 28,500 kilometers).

The maximum annual dose to the transportation crew from all offsite transportation activities under this alternative was estimated to be about 0.3 person-rem, for both disposal options. The dose to the general population would be about 0.09 to 0.1 person-rem. Accordingly, incident-free transportation would result in a maximum of no (2×10^{-4}) excess LCFs among the transportation workers and no (6×10^{-5}) excess LCFs in the affected population. The estimated dose associated with transport of low-level radioactive waste and mixed low-level radioactive waste to the NNSS is slightly higher because of the longer distance traveled and larger affected population. The differences in estimated doses under either disposal option are very small.

Note that DOE regulations limit the maximum annual dose to a transportation worker to 100 millirem per year unless the individual is a trained radiation worker. The dose to a trained radiation worker is limited to 2 rem per year (DOE 1999b). The potential for a trained radiation worker to develop a fatal latent cancer from an annual dose at the maximum annual exposure is 0.0012. Therefore, an individual transportation worker is not expected to develop a lifetime fatal latent cancer from exposure during these activities.

The doses to the general populations along the routes from LANL to Pojoaque and from Pojoaque to Santa Fe were estimated to be a maximum of 0.005 person-rem. This dose would result in no (3×10^{-6}) excess LCFs among the exposed populations.

Transportation Accidents

Operations Impacts—As stated earlier in Section 4.3.13.1, two sets of analyses were performed for the evaluation of transportation accident impacts involving radioactive materials transport: impacts of maximum reasonably foreseeable accidents (accidents with probabilities greater than 1 in 10 million per year [1×10^{-7}]) and impacts of all accidents (total transportation accidents).

For radioactive materials transported under this alternative, the maximum reasonably foreseeable offsite truck transportation accident with the greatest consequence would involve a truck carrying contact-handled transuranic waste. The probability that such an accident would occur is about 1 in 1.5 million (6.7×10^{-7}) per year in a rural area.[24] If such an accident occurs, the consequences in terms of general population dose would be 0.2 person-rem. Such an exposure could result in no (1×10^{-4}) excess LCFs among the exposed population. This accident would result in a dose of 8.2 millirem to a hypothetical MEI located at a distance of 330 feet (100 meters) and exposed to the accident plume for 2 hours, with a corresponding risk of developing a latent fatal cancer of 5×10^{-6}, or about 1 chance in 200,000.

Under the Continued Use of CMR Building Alternative, estimates of the total offsite transportation accident risks for all projected accidents involving radioactive shipments, regardless of type, are a maximum radiological dose-risk[25] to the general population of 0.02 person-millirem, resulting in no (1×10^{-8}) excess LCFs and a maximum nonradiological (traffic) accident risk of zero (9×10^{-4}) fatalities.

The maximum radiological transportation accident dose-risk to the general populations along the routes from LANL to Pojoaque and from Pojoaque to Santa Fe, New Mexico, would be 0.0008 person-millirem. This dose would result in no (5×10^{-10}) excess LCFs among the exposed populations. The maximum expected traffic accident fatalities along these routes would be zero (5×10^{-5}).

The impacts of transporting various nonradiological materials are presented in terms of distance traveled and numbers of expected traffic accidents and fatalities. This alternative does not include new construction. Therefore, the transport would be limited to the transport of hazardous wastes generated during normal operations, which is expected to be about one shipment per year (see Table 4–36). Based on the travel assumptions described in Section 4.3.13.1, the transportation under this alternative would result in about 330 miles (530 kilometers) traveled, no (1×10^{-5}) traffic accidents, and no (1×10^{-6}) fatalities.

4.4.13.2 Traffic

Operations Impacts—As the continued CMR Building and RLUOB operations would require the same number of employees as currently working these activities on the site, no changes in traffic are anticipated. There would be no change in the impact on traffic or transportation on the internal LANL road system, the vehicle access portals, or the public roadways external to LANL over the existing conditions.

4.5 Facility Disposition

4.5.1 Impacts of CMR Building Decontamination and Decommissioning

Chapter 2, Section 2.8.2, describes the contaminated areas, equipment, and systems within the CMR Building and the processes that would be undertaken for building DD&D. For purposes of analysis, only disposition of the entire CMR Building is addressed in detail because activities associated with this

[24] The likelihood of an accident in an urban or suburban area is much less than 1 in 10 million per year.
[25] Dose-risk includes the probability that an accident will occur. Here, these values were calculated by dividing the radiological risks in terms of LCFs given in Table 4–49 (column 9) by 0.0006, which is the risk of an LCF per person-rem of exposure.

option would have the greatest potential environmental consequences, including generation of the largest amount of wastes. DD&D procedures for dispositioning the CMR Building would be common actions across each of the alternatives analyzed in this *CMRR-NF SEIS* (see Chapter 2, Section 2.8).

Disposition impacts of the demolition of the CMR Building are discussed qualitatively below for air quality and noise, surface-water and groundwater quality, ecological resources, and human health. Quantitative information has not been presented for these resource areas because project-specific work plans have not been prepared and the CMR Building has not been completely characterized with regard to types and locations of contamination. The waste materials that could be generated by the demolition of the CMR Building are addressed quantitatively, however, as are the impacts of transporting this waste to offsite management facilities; the waste generation and transportation impacts data have been updated since the 2003 *CMRR EIS*. Additional impacts could result from environmental restoration of potential release sites associated with the CMR Building and its vicinity. These potential release sites will be characterized and remediation decisions made in accordance with established processes, including the 2005 Consent Order.

Example potential release sites associated with the CMR Building include the solid waste management units and areas of concern summarized in the following text box.

Example Potential Release Site Associated with the Chemistry and Metallurgy Research Building

Solid Waste Management Unit (SWMU) 03-034(a) consists of two stainless steel and two concrete underground liquid storage tanks located near Wing 9 of the Chemistry and Metallurgy Research (CMR) Building that for a number of years received radioactive liquid waste from Wing 9. A sump pit serving the concrete tanks was used to drain liquid waste to a radioactive liquid waste line to be pumped to the Radioactive Liquid Waste Treatment Facility. Both sets of tanks have been taken offline, and the waste line to the tanks was removed.

Area of Concern (AOC) 03-004(c) is an active dumpster storage area located on an asphalt-covered surface at the main loading dock of the CMR Building, used for staging of boxed low-level radioactive waste before disposal. Runoff from this AOC flows to a storm drain that discharges at an outfall (SWMU 03-054(e)) into Mortandad Canyon. The AOC has been sampled and additional samples will be obtained, leading to a remediation recommendation (LANL 2010g).

SWMU 03-054(e) is an outfall located in upper Mortandad Canyon that discharges effluent from several exterior sources from the CMR Building, including roof drains and surface-water runoff from the asphalt area around the building. The SWMU has been sampled and additional samples will be obtained, leading to a remediation recommendation (LANL 2010g).

Air Quality and Noise

Removal of the CMR Building would result in emissions associated with equipment and vehicle exhaust, as well as particulate emissions (fugitive dust) from demolition activities. Demolition is expected to result in elevated particulate concentrations in the immediate vicinity of TA-3. Concentrations of other criteria pollutants would increase, but are not expected to exceed ambient standards in areas where the public has regular access. Demolition activities may also result in radiological releases.

Noise levels during disposition activities at the CMR Building would be consistent with those typical of construction activities. As appropriate and in accordance with DOE regulations (10 CFR Part 851), workers would be required to wear hearing protection to avoid adverse effects on hearing. Noninvolved workers at nearby facilities within TA-3 would be able to hear some of the activities; however, the level of noise would not likely be distracting because construction noise at LANL is common. Some wildlife species may avoid the immediate vicinity of the CMR Building due to noise as demolition proceeds;

however, any effects on wildlife resulting from noise associated with demolition activities would be temporary.

Surface-Water and Groundwater Quality

Little or no impacts on water resources are expected. Demolition of the CMR Building would not disturb surface water or generate liquid effluents. Silt fences and other best management practices would be employed to ensure that fine particulates would not be transported by stormwater into surface-water features in the vicinity of the CMR Building. Potable water use at the site would be limited to that necessary for washing equipment, dust control, and worker sanitary facilities.

Ecological Resources

All disposition activities would take place within TA-3, an area that has been dedicated to industrial use since the early 1940s. There are some small trees and shrubs around the CMR Building, but the immediate area consists mostly of roads, parking areas, and concrete pads. Wildlife in the vicinity could be temporarily disturbed by demolition activity and noise when the building is razed, building foundation and buried utilities are removed, contaminated soils are excavated, and waste is trucked to disposal sites.

Cultural Resources

Under Section 106 of the National Historic Preservation Act, any adverse effects on NRHP-eligible properties must be resolved prior to commencement of project activities. In the case of the CMR Building, which has been determined to be eligible for listing due to its association with events during the Cold War years and its architectural and engineering significance (Garcia, McGehee, and Masse 2009), removal of equipment and DD&D of the facility would constitute an adverse effect. In conjunction with the State Historic Preservation Office, NNSA has developed documentation measures to reduce adverse effects on NRHP-eligible properties at LANL. These measures are incorporated into formal memoranda of agreement between NNSA and the New Mexico Historic Preservation Division. Typical memoranda of agreement terms include the preparation of a detailed report containing the history and description of the affected properties. Other terms include the identification of all drawings for each property, the production of medium-format archival photographs, and the preparation of LANL historic building survey forms. Documentation measures included in NNSA memoranda of agreement are carried out to the standards of the Historic American Building Survey/Historic American Engineering Record (HABS/HAER). Specific levels of HABS/HAER documentation are determined on a case-by-case basis.

Human Health

The primary source of potential consequences to workers and members of the public would be associated with the release of radiological contaminants during the decontamination and demolition processes. The only radiological impact on noninvolved workers or members of the public would be from radiological air emissions. Any emissions of contaminated particulates would be reduced by the use of plastic draping and contaminant containment, coupled with HEPA filtration.

Demolition of the CMR Building would involve the removal of radioactively contaminated and/or asbestos-contaminated material. Asbestos-contaminated material would be removed in accordance with asbestos abatement guidelines. Workers would be protected by personal protective equipment and other engineered and administrative controls. No asbestos would likely be released that could affect members of the public.

Waste Management

All wastes would be handled, managed, packaged, and disposed of in the same manner as wastes generated by other activities at LANL (see Chapter 3, Section 3.12). The amounts and types of wastes are expected to be within the capacity of existing waste management systems and are not expected to impact waste management operations at LANL or elsewhere. Waste minimization and pollution prevention principles would be used to the maximum extent practicable under DOE policy.

Projected annual and total waste quantities per waste type for DD&D of the CMR Building are summarized in **Table 4–50** using a work completion time period of 2 to 4 years.[26] Waste projections are uncertain and have been updated from those presented in the 2003 *CMRR EIS* and 2008 *LANL SWEIS* (DOE 2003b, 2008a) by scaling estimates of contaminated surfaces and equipment (DOE 2003b; LANL 2003) to waste volumes generated from DD&D of known contaminated structures at the former Rocky Flats Plant.

Transuranic (and mixed transuranic) waste would be generated from DD&D of heavily contaminated ducts, radioactive liquid waste piping, hot cells, conveyors, gloveboxes, hoods, and other equipment. Transuranic waste would be packaged in drums or standard waste boxes and shipped to WIPP in reusable Type B shipping packages certified by the U.S. Nuclear Regulatory Commission. The total WIPP capacity for transuranic waste disposal is set at 6.18 million cubic feet (175,600 cubic meters) pursuant to the Waste Isolation Pilot Plant Land Withdrawal Act (DOE 2002b), or 219,000 cubic yards (168,485 cubic meters) of contact-handled transuranic waste (DOE 2009a). Estimates in the Annual *Transuranic Waste Inventory Report – 2010* indicate that approximately 185,000 cubic yards (141,000 cubic meters) of contact-handled transuranic waste would be disposed of at WIPP (emplaced volume plus stored volume) (DOE 2010b), approximately 36,000 cubic yards (27,500 cubic meters) less than the contact-handled transuranic waste permitted capacity. The projected DD&D total of 150 cubic yards (120 cubic meters) would require less than 1 percent of the unsubscribed WIPP disposal capacity. Because the total quantity of transuranic waste that may be disposed of at WIPP is statutorily established, and the operating period for WIPP will depend on the volumes of transuranic waste that may be disposed of at WIPP, WIPP may meet its statutory disposal limit before the end of the operational period of the Modified CMRR-NF. If necessary, transuranic or mixed transuranic waste generated without a disposal pathway would be safely stored pending development of additional disposal capacity.

Bulk low-level radioactive waste would be packaged in soft-sided liners and bags and shipped in reusable intermodal containers, while packaged low-level radioactive waste would be packaged in containers such as B-25 boxes or 55-gallon (208-liter) drums. The waste could be transported off site to NNSS or to commercially licensed facilities for disposal and/or disposed of on site at TA-54, while Area G continues to accept waste.

It is expected that the bulk of the low-level radioactive waste generated by the demolition of the CMR Building would be disposed of at facilities at the NNSS; the existing commercial facility at Clive, Utah; or other commercial facilities as they become available. If CMR Building DD&D requires 2 years to complete, the up to 19,000 cubic yards (15,000 cubic meters) of low-level radioactive waste projected to be generated annually would represent about 30 percent of the average low-level radioactive waste disposal rate at the NNSS and about 9 percent of the current low-level radioactive waste disposal rate at the Clive, Utah, commercial facility (see Section 4.2.12). Considering both facilities, offsite disposal capacity is believed to be adequate.

[26] The waste projections do not include wastes that could result from remediation decisions for potential release sites that may be located at or in the vicinity of the CMR Building. These potential release sites will be characterized and remediation decisions made in accordance with established processes, including the 2005 Consent Order.

Table 4–50 Continued Use of CMR Building Alternative — Projected Waste Generation from Decontamination, Decommissioning, and Demolition of the CMR Building

Waste Stream	*Annual Waste Generation*	*Total Waste Generation*
Transuranic waste (cubic yards) [a]	38 – 75	150
Bulk and packaged low-level radioactive waste (cubic yards) [b]	9,500 – 19,000	38,000
Mixed low-level radioactive waste (cubic yards) [c]	70 – 140	280
Solid waste (cubic yards) [d]	27,500 – 53,000	110,000
Chemical waste (tons) [e]	65 – 130	260

CMR=Chemistry and Metallurgy Research.
[a] Includes mixed transuranic waste.
[b] Three-quarters of the low-level radioactive waste is projected to be bulk material to be shipped for disposal in soft-sided liners or bags; the remaining waste is projected to be packaged in containers such as drums and boxes.
[c] Expected to principally include asbestos waste contaminated with radionuclides.
[d] Includes demolition debris and sanitary solid waste generated by workers.
[e] Chemical waste is not a formal LANL waste category; however, as was done in the *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE 2008a), the term is used in this *CMRR-NF SEIS* to denote a variety of materials, including hazardous waste designated under Resource Conservation and Recovery Act regulations; toxic waste (asbestos and polychlorinated biphenyls) designated under the Toxic Substances Control Act; and special waste designated under the New Mexico Solid Waste Regulations, including industrial waste, infectious waste, and petroleum-contaminated soil. The waste is expected to be principally asbestos waste.
Note: Total may not equal the sum of the contributions due to rounding. To convert cubic yards to cubic meters, multiply by 0.76456; gallons to liters, by 3.78533.
Source: DOE 2003b, 2008a; LANL 2003.

Mixed low-level radioactive waste would principally consist of asbestos waste contaminated with radionuclides. It would be packaged in containers such as B-25 boxes or 55-gallon (208-liter) drums pending shipment to an offsite treatment, storage, and disposal facility.[27] It is expected that the projected annual generation of mixed low-level radioactive waste would be within the current disposal capacities of the NNSS in Nevada and the commercial facility in Clive, Utah. Using a time period of 2 years, the 140 cubic yards (110 cubic meters) of mixed low-level radioactive waste projected to be generated annually would represent about 9 percent of the average mixed low-level radioactive waste disposal rate at the NNSS and about 2 percent of the current mixed low-level radioactive waste disposal rate at the commercial facility in Clive, Utah (see Section 4.3.12). Furthermore, several additional mixed low-level radioactive waste treatment, storage, and disposal facilities are nationally available.

Solid waste consisting of demolition debris and sanitary solid waste was projected to total up to 53,000 cubic yards (41,000 cubic meters) per year. This waste would be collected in appropriate waste containers such as 20-cubic-yard rolloffs or dumpsters and regularly recycled or disposed of by transfer to the Los Alamos County Eco Station within LANL or to an offsite solid waste facility permitted to accept the waste. No impacts on available solid waste management capacity are expected because of the large number of waste disposition facilities permitted within New Mexico (see Section 4.3.12).

Chemical waste (principally including asbestos that is not radioactively contaminated, but also including polychlorinated biphenyls and Resource Conservation and Recovery Act [RCRA]-regulated hazardous waste) would be packaged in containers such as 55-gallon (208-liter) drums and shipped to offsite recycle or treatment, storage, and disposal facilities. It is expected that the amount of chemical waste generated by demolition of the CMR Building would not exceed the disposal capacity of existing facilities (see Section 4.3.12). Several permitted treatment, storage, and disposal facilities exist within New Mexico and neighboring states; 19 facilities are permitted in New Mexico for disposal of special waste such as

[27] *Asbestos waste contaminated with radionuclides may also be disposed of at LANL TA-54, while Area G continues to accept waste.*

asbestos. In addition, 10 permitted treatment, storage, and disposal facilities for hazardous waste existed in New Mexico as of 2008, and 39 permitted companies for treatment or disposal of polychlorinated biphenyls existed in the United States as of 2010.

About 68,000 gallons (260,000 liters) per year of liquid low-level radioactive waste are projected to be generated during CMR Building decommissioning. This waste would be transferred to RLWTF at TA-50 for treatment (Balkey 2011). Liquid waste from decommissioning of the CMR Building has been considered in LANL forecasts for annual receipt of liquid waste at RLWTF (Balkey 2011), and no impacts on RLWTF capacity are expected.

Transportation

Waste from DD&D of the CMR Building would be transported by truck to recycle or treatment, storage, and disposal sites at LANL or offsite locations. Transport of radioactive waste would present potential risks to workers and the public from radiation exposure as the waste packages are transported along roads and highways. There would also be potential public risks from radiation exposure (expressed as LCFs) should hypothetical traffic accidents result in release of radioactive material, as well as nonradiological risks of public fatalities resulting from the mechanical forces involved in an accident. Possible accident risks from transport of nonradioactive wastes would only involve nonradiological public fatality risks. **Table 4–51** lists the estimated annual number of offsite shipments of wastes from DD&D of the CMR Building using an assumed 2-year completion time period.

Table 4–51 Continued Use of CMR Building Alternative — Annual Number of Offsite Shipments of Wastes from Decontamination, Decommissioning, and Demolition of the CMR Building

Number of Shipments				
Low-Level Radioactive Waste	***Mixed Low-Level Radioactive Waste***	***Transuranic Waste***	***Hazardous Waste***	***Nonhazardous Waste***
1,110	10	10	20	2,700

CMR = Chemistry and Metallurgy Research.
Note: Annual shipment estimates have been rounded.

Table 4–52 summarizes total annual transportation impacts, as well as annual transportation impacts for two transportation routes nearby LANL: LANL to Pojoaque, New Mexico, which is the route segment used by trucks to and from LANL, and Pojoaque to Santa Fe, New Mexico, which is the route segment used by all trucks traveling on Interstate 25 (such as trucks traveling to WIPP). For purposes of analysis, the NNSS in Nevada and a commercial facility in Utah were used as possible disposal sites for low-level radioactive waste and mixed low-level radioactive waste if these wastes are all transported to offsite facilities. The differences in distance from LANL and the affected population along the different transportation routes between these two sites result in a range of impacts.

DD&D of the CMR Building could be completed in as few as 2 years, during which there would be a total of 2,260 offsite shipments of radioactive waste, or an average of 1,130 shipments each year. If DD&D takes a longer time to complete, the annual impacts would be smaller, although the total impacts of shipping all radioactive waste would remain the same. For purposes of analysis, radioactive wastes would be shipped to the NNSS in Nevada (or a commercial site in Utah), and WIPP in New Mexico. The total annual projected (one-way) distance traveled on public roads by trucks transporting radioactive waste would range from about 0.75 to 0.87 million miles (1.2 to 1.4 million kilometers).

Table 4–52 Continued Use of CMR Building Alternative — Annual Risks of Transporting Radioactive Waste from Decontamination, Decommissioning, and Demolition of the CMR Building

Transport Segments	Offsite Disposal Option [a]	Annual Number of Shipments	Round Trip Kilometers Traveled (thousands)	Incident-Free: Crew: Dose (person-rem)	Incident-Free: Crew: Risk [b]	Incident-Free: Population: Dose (person-rem)	Incident-Free: Population: Risk [b]	Accident: Radiological Risk [b, c]	Accident: Nonradiological Risk [b]
LANL to Pojoaque	NNSS	1,130	70.3	0.05	3×10^{-5}	0.01	1×10^{-5}	9×10^{-10}	1×10^{-3}
Pojoaque to Santa Fe		1,130	117.5	0.09	5×10^{-5}	0.02	1×10^{-5}	7×10^{-10}	2×10^{-3}
Total		1,130	2,812	1.9	1×10^{-3}	0.4	3×10^{-4}	1×10^{-7}	4×10^{-2}
LANL to Pojoaque	Commercial	1,130	70.3	0.05	3×10^{-5}	0.01	1×10^{-5}	9×10^{-10}	1×10^{-3}
Pojoaque to Santa Fe [d]		10	1.0	0.02	1×10^{-5}	0.006	4×10^{-6}	8×10^{-15}	2×10^{-5}
Total		1,130	2,423	1.6	1×10^{-3}	0.4	2×10^{-4}	9×10^{-8}	4×10^{-2}

CMR = Chemistry and Metallurgy Research; LANL = Los Alamos National Laboratory; NNSS = Nevada National Security Site.

[a] For purposes of analysis, low-level and mixed radioactive wastes would be shipped to either the NNSS or to a commercial site in Utah. All transuranic wastes would be shipped to the Waste Isolation Pilot Plant.

[b] Radiological risk is expressed in terms of latent cancer fatalities, while nonradiological risk is expressed in terms of the calculated number of traffic accident fatalities. Radiological risk was determined using a risk of 0.0006 latent cancer fatalities per person-rem (DOE 2003a).

[c] Radiological accident risk in this table is presented in terms of dose-risk, which considers the probabilities that a range of accidents would occur.

[d] Shipments of low-level radioactive waste to a commercial disposal site in Utah would not pass along the Pojoaque to Santa Fe segment of highway.

Note: To convert kilometers to miles, multiply by 0.62137.

Impacts of Incident-Free Transportation—The annual dose to the transportation crew from offsite transportation of CMR Building DD&D waste was estimated to range from about 1.6 person-rem for disposal at the commercial disposal site in Utah to about 1.9 person-rem for disposal at the NNSS in Nevada. The dose to the general population (up to about 0.4 person-rem) would be nearly the same whether the waste is shipped to the commercial site in Utah or to the NNSS in Nevada. Using a risk of 0.0006 LCFs per person-rem (DOE 2003a), incident-free transportation would result in no (up to 1×10^{-3}) excess LCFs among transportation workers and no (up to 3×10^{-4}) excess LCFs in the affected population. The estimated doses associated with transport of low-level radioactive waste and mixed low-level radioactive waste to the NNSS in Nevada are higher than those for transport to Utah because of the longer distance traveled and larger affected population. The differences in estimated doses under either disposal option are very small, however, as shown above.

Note that DOE regulations limit the maximum annual dose to a transportation worker to 100 millirem per year unless the individual is a trained radiation worker. The dose to a trained radiation worker is limited to 2 rem per year (10 CFR Part 835). Using a risk of 0.0006 LCFs per rem (DOE 2003a), the potential for a trained radiation worker to develop a fatal latent cancer from an annual dose at the maximum annual exposure would be 0.0012. Therefore, an individual transportation worker is not expected to develop a lifetime fatal latent cancer from exposure during these activities.

The maximum annual dose to the general populations along the routes from LANL to Pojoaque and from Pojoaque to Santa Fe, New Mexico, was estimated to be 0.02 person-rem. Using a risk of 0.0006 LCFs per person-rem (DOE 2003a), this dose would result in no (1×10^{-5}) excess LCFs among the exposed populations.

The maximum dose to an MEI residing at the edge of the transportation route was estimated to be about 0.0002 millirem per shipment. If this individual were similarly exposed to radiation from all shipments of radioactive waste from DD&D of the CMR Building, the maximum annual dose would be about 0.22 millirem, with a risk of developing an LCF of 1.4×10^{-7} (about 1 in 7.3 million).

Impacts of Accidents during Transportation—As stated in Section 4.2.13, two sets of analyses were performed for the evaluation of transportation accident impacts: impacts of all conceivable accidents (total transportation accidents) and impacts of maximum reasonably foreseeable accidents. The first (probabilistic) analysis takes into account the probability of an accident along the transport route and the potential releases to the environment caused by a spectrum of possible accident scenarios, from low-probability accidents with high consequences (large releases) to high-probability accidents (fender benders) with low or no consequences (small or no releases). The consequences and probabilities are summed over all accident probabilities and severity categories to result in probability-weighted values in terms of dose-risk (person-rem) and risk (LCF). The second analysis (maximum reasonably foreseeable accident analysis) presents the public consequences that would result from a severe accident in an urban or suburban area that has a probability greater than 1 in 10 million per year (1×10^{-7}).

As listed in Table 4–52, the maximum radiological transportation accident risk, reflecting all projected accidents involving radioactive shipments regardless of type, is 1×10^{-7} LCFs using a risk of 0.0006 LCFs per person-rem (DOE 2003a). There would be no (4×10^{-2}) risk of a fatality from nonradiological (traffic) accidents.

The maximum radiological transportation accident risk to the general population along the routes from LANL to Pojoaque and from Pojoaque to Santa Fe, New Mexico, would be no (9×10^{-10}) excess LCFs among the exposed populations. There would be no (2×10^{-3}) risk of a fatality from nonradiological (traffic) accidents along these routes.

The maximum reasonably foreseeable offsite truck transportation accident with the greatest consequence would involve a truck carrying contact-handled low-level radioactive waste. The probability that such an accident would occur is about 1 in 667,000 (1.5×10^{-6}) per year in an urban area. If such an accident were to occur, the consequences in terms of general population dose would be about 0.023 person-rem. Using a factor of 0.0006 LCFs per rem or person-rem, such a dose would result in no (1×10^{-5}) excess LCFs among the exposed population. This accident would result in a dose of 0.002 millirem to a hypothetical MEI located at a distance of 330 feet (100 meters) from the accident and exposed to the accident plume for 2 hours. The corresponding risk to the MEI of developing a latent fatal cancer would be 1.2×10^{-9}), or about 1 chance in 793 million.

Impacts of Nonradioactive Waste Transportation—Nonradioactive waste includes demolition debris and sanitary solid waste, as well as chemical waste (mostly consisting of asbestos material). This waste would be shipped to recycle or treatment, storage, and disposal facilities within New Mexico or nearby states. The impacts of transporting this waste were determined by estimating the number of possible fatalities that could result from waste transportation accidents. The number of fatalities was determined as the product of the projected distance traveled by the waste trucks annually and the statistical probability of an accident fatality per distance traveled. Based on the assumptions listed in Section 4.2.13.1, transport of nonradiological waste from CMR Building DD&D would result in about 700,000 miles (1.1 million kilometers) traveled, no (0.2) traffic accidents, and no (0.02) fatalities.

4.5.2 Impacts of 2004 CMRR-NF Decontamination and Decommissioning

Disposition of the 2004 CMRR-NF would be considered at the end of its operational life. Impacts would depend on the disposition decision, which could range from reuse to DD&D of the entire 2004 CMRR-NF.

If complete DD&D is chosen, it is expected that impacts would be comparable to, or, for many resource areas, smaller than those for DD&D of the CMR Building (see Section 4.5.1). Although similar activities involving radioactive material would be performed, the design, construction, and operation of the 2004 CMRR-NF would incorporate the waste minimization and equipment and operational space decontamination principles that have been learned and implemented since the CMR Building was constructed in the early 1950s. Known hazardous or toxic materials, such as asbestos and polychlorinated biphenyls, also would be avoided or minimized during 2004 CMRR-NF construction and operations, and waste minimization and pollution prevention principles would be implemented. All DD&D activities would be conducted in accordance with applicable Federal and state requirements. Specific resource areas are briefly addressed below.

Air Quality and Noise—There would be air emissions from operation of equipment and vehicles, as well as noise. Airborne emissions of pollutants would likely be smaller than those for DD&D of the CMR Building because known hazardous or toxic materials would be avoided or minimized during 2004 CMRR-NF construction and operations. Noise impacts on humans and wildlife would be temporary.

Surface-Water and Groundwater Quality—Little or no impacts on water resources would result from DD&D of the 2004 CMRR-NF. Applicable best management practices would be implemented to reduce the potential for surface-water impacts.

Ecological Resources—Disposition of the 2004 CMRR-NF would take place in a heavily industrialized area. Any wildlife in the area could be temporarily impacted by disposition activities, but impacts would be minimized in accordance with applicable requirements, including protection of specific species.

Cultural Resources—Cultural resources would be managed and protected in accordance with applicable requirements at the time of DD&D of the 2004 CMRR-NF.

Human Health—Human health would be protected in accordance with applicable Federal and state requirements. Any impacts on workers and the public from disposition activities are expected to be less than those associated with DD&D of the CMR Building because known hazardous or toxic materials, such as asbestos and polychlorinated biphenyls, would be avoided or minimized during 2004 CMRR-NF construction and operations.

Waste Management—Waste quantities from DD&D of the 2004 CMRR-NF are expected to be comparable to or (likely) smaller than those for DD&D of the CMR Building. As noted above, although similar activities would be conducted, construction and operation of the 2004 CMRR-NF would reflect 50 years of experience in facility design and operations, and pollution prevention and waste minimization practices would be implemented. Thus, less radioactive and chemical waste is expected than from DD&D of the CMR Building.

The quantity of nonradioactive waste that is expected from DD&D of the 2004 CMRR-NF is expected to be comparable to that for DD&D of the CMR Building. On one hand, the projected floor space of the 2004 CMRR-NF (200,000 square feet [18,600 square meters]) is less than half that of the CMR Building (550,000 square feet [51,100 square meters]), suggesting the quantity of demolition debris from DD&D of the 2004 CMRR-NF would be less than half of that from DD&D of the CMR Building. On the other hand, the 2004 CMRR-NF might be constructed with thicker flooring and walls than the CMR Building, suggesting that the quantity of waste per unit of floor area from DD&D of the 2004 CMRR-NF would be larger than that for DD&D of the CMR Building. These competing influences suggest that the amount of demolition debris from both DD&D of the CMR Building and the 2004 CMRR-NF would be roughly equivalent.

Transportation—2004 CMRR-NF demolition wastes would be transported to recycle or treatment, storage, and disposal sites at LANL or offsite locations in compliance with applicable requirements. Potential impacts are expected to be similar in magnitude to those for CMR Building DD&D, although there could be fewer radioactive waste shipments because less radioactive waste is expected. Impacts cannot be quantified at this time because potential recycle or treatment, storage, and disposal facilities cannot be identified and population distributions along possible transportation routes are unknown.

4.5.3 Impacts of Modified CMRR-NF Decontamination and Decommissioning

Disposition of the Modified CMRR-NF building would be considered at the end of its operational design life of at least 50 years. Impacts would depend on the disposition decision, which could range from reuse to DD&D of the entire facility. If DD&D of the entire facility is chosen, impacts are expected to be comparable to those described under disposition of the CMR Building (see Section 4.5.1). For the same reasons as those discussed in Section 4.5.2, the quantity of demolition debris under this alternative may exceed that from DD&D of the CMR Building because of the increase in the overall size of the Modified CMRR-NF and the thickness of its walls.

4.6 Cumulative Impacts

In accordance with CEQ regulations, a cumulative impacts analysis includes "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time" (40 CFR 1508.7).

The cumulative impacts analysis for this *CMRR-NF SEIS* includes (1) an examination of cumulative impacts presented in the 2008 *LANL SWEIS*; (2) an evaluation of cumulative impacts since the 2008 *LANL SWEIS* was issued, which are presented in this chapter; and (3) a review of the environmental impacts of past, present, and reasonably foreseeable actions in the region.

Primary sources of information on LANL contributions to cumulative impacts, other than this *CMRR-NF SEIS* and the 2008 *LANL SWEIS*, are listed below:

- *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement,* DOE/EIS-0026-S-2 (DOE 1997b)
- *Environmental Surveillance at Los Alamos During 2009,* LA-14427-ENV (LANL 2010b)
- Notice of Intent to Prepare an *Environmental Impact Statement for the Operation of a Biosafety Level 3 Facility at Los Alamos National Laboratory, Los Alamos, New Mexico,* 70 FR 228, November 29, 2005
- *Final Complex Transformation Supplemental Programmatic Environmental Impact Statement*, DOE/EIS-0236-S4F (DOE 2008c)
- *Draft Environmental Impact Statement for the Disposal of Greater-Than-Class C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste (GTCC EIS),* DOE/EIS-0375-D (DOE 2011b)

It is also necessary to consider activities implemented by other Federal, state, and local agencies and individuals outside LANL, but within its ROI, including state or local development initiatives; new residential development; new industrial or commercial ventures; clearing land for agriculture; new utility or infrastructure construction and operation; and new waste treatment and disposal activities.

The main facility at Sandia National Laboratories in Albuquerque is located approximately 60 miles (97 kilometers) from LANL. Due to this distance, cumulative impacts other than air emissions are not expected to be influenced by Sandia National Laboratories. For radiological air emissions, the 2009 Sandia National Laboratories dose to the offsite MEI was estimated to be 0.00048 millirem, and the 2009 population dose was estimated to be 0.063 person-rem (SNL 2010). Because the combined impacts would be very small, there would be no significant impact from Sandia National Laboratories, and it is not considered in this cumulative impacts section.

The City of Santa Fe, New Mexico; Los Alamos, Mora, Rio Arriba, Sandoval, San Miguel, Santa Fe, and Taos Counties, New Mexico; the Santa Clara and San Ildefonso Pueblos in New Mexico; the New Mexico Department of Transportation; BLM; and the U.S. Forest Service were contacted for information regarding expected future activities that could contribute to cumulative impacts. The City of Santa Fe and Mora, San Miguel, and Sandoval Counties did not identify any major future actions (Romero 2011; Schiavo 2011; Sena 2011). Santa Fe County, Taos County, and the Santa Clara and San Ildefonso Pueblos did not provide information for the cumulative impacts analysis. The following activities in the region surrounding LANL were identified:

- Rio Arriba County identified a road construction project involving the repaving of approximately 5.6 miles (9 kilometers) of U.S. Route 64 from Lumberton to Monero, New Mexico. The project is ongoing and is expected to be completed by the fall of 2011. The project is located more than 50 miles (80 kilometers) from LANL (Kilgour 2011).

- Los Alamos County and a Japanese agency (New Energy and Industrial Technology Development Organization) are planning a Smart Grid project that includes a 2-megawatt photovoltaic solar array, large-scale battery storage system, and demonstration home. The solar array will be constructed at the former landfill on East Jemez Road; however, before construction can begin, the landfill must be capped according to New Mexico Environment Department regulations (LADPU 2010b; Majure 2011a).

- Los Alamos County identified the Diamond Drive Project, which includes pavement rehabilitation and reconstruction of Diamond Drive from and including the San Ildefonso roundabout up to the Los Alamos Canyon Bridge. The project is currently on phase 4, which has a scheduled completion date of September 30, 2011 (LADPW 2011).

- Los Alamos County is currently installing 8,300 feet (2,500 meters) of 8-inch (20-centimeter), high-density, polyethylene gas line and a new regulator station in the Barranca Mesa Medium Pressure Gas System. The line will extend from North Mesa to Barranca Mesa and will be used to provide a second source of gas to the system and to improve reliability (LADPU 2011a).

- Los Alamos County Department of Public Utilities is currently the lead agency for the reconstruction of the Los Alamos Canyon Dam, which would enable recreation at the Los Alamos Canyon Reservoir. The project began on March 21, 2011, and is scheduled to be completed on November 15, 2011 (LADPU 2011b).

- Los Alamos County recently completed construction of a 3-megawatt, low-flow turbine-generator at the Los Alamos Department of Public Utilities' Abiquiu Plant. The new turbine increased the capacity at the Abiquiu Plant from 13.8 megawatts to 16.8 megawatts and provides additional power to Los Alamos County, including Los Alamos National Laboratory. The project began in November 2009 and was completed in April 2011 (DOE 2011d).

In addition, Los Alamos County has closed the Los Alamos County Landfill and is considering use of the San Juan-Chama water allotment. Solid wastes are now shipped out of the county via the new Eco Station, which consists of the solid waste transfer station (LAC 2010a). The Bayo Wastewater Treatment Facility in Santa Fe County was replaced in 2007 with an advanced wastewater treatment facility in Pueblo Canyon. The abandoned Bayo Wastewater Treatment Facility will be demolished and the site will be reclaimed for natural open space (LAC 2010a). In December of 2010, the Los Alamos Department of Public Utilities released its "Conservation Plan for Water and Energy," which addresses the supply- and demand-side conservation measures for potable water, electricity, and natural gas. The report states that Los Alamos has reached an agreement with the U.S. Bureau of Reclamation for an additional 1,200 acre-feet, or 391 million gallons (1,500 million liters), per year of San Juan-Chama surface water that is currently inaccessible (LADPU 2010a). The Los Alamos Department Public Utilities Board met on June 15, 2011, and a feasibility study for the project is currently under way (Majure 2011b).

A number of projects were identified that would affect the Santa Fe National Forest, including drilling and operating two oil wells, reservoir and dam repair, thinning and prescribed fire, fire salvage, mineral extraction, and grazing allotment (USFS 2010a).

BLM identified smaller projects that would affect BLM lands, such as continued road maintenance, timber harvesting, and grazing permit renewals, as well as larger projects such as the Sandoval County Oil and Gas Lease Sale; *Draft Taos Resource Management Plan*; Mid-America Pipeline Western Expansion Project; Buckman Water Diversion Project; Nutrias Prospect Oil Well; and Windstream Communication's Fiber-Optic Project (BLM 2010b, 2011). These larger projects are described below.

- The Sandoval County Oil and Gas Lease Sale involves BLM's offering of two parcels of about 2,500 acres each (1,000 hectares), located in northern Sandoval County between Cuba and Torreon, New Mexico, at the April 2010 oil and gas lease sale. A Finding of No Significant Impact and a Decision Record were signed on February 2, 2010. The plots of land are located approximately 45 miles (72 kilometers) west of LANL (BLM 2010c). The sale was finalized in April 2010 (Barnes 2011).

- The *Draft Taos Resource Management Plan* is meant to provide guidance for the management of public lands and resources administered by the Taos Field Office of BLM. When completed, the plan will guide the Taos Field Office in the implementation of all its subsequent management actions and site-specific activities (BLM 2010b).

- The Mid-America Pipeline Western Expansion Project added 12 separate loop sections to the existing liquefied natural gas pipeline, which increased system capacity from 225,000 to 275,000 barrels per day. A 23-mile (37-kilometer) segment was placed in Sandoval County, 30 miles (48 kilometers) from the LANL boundary. This segment was constructed parallel to and 25 feet (7.6 meters) away from the existing pipeline right-of-way (BLM 2006a; Enserca 2011).

- The Buckman Water Diversion Project diverts water from the Rio Grande for use by the City of Santa Fe and Santa Fe County. The diversion project withdraws water from the Rio Grande approximately 3 miles (5 kilometers) downstream from where New Mexico State Road 502 crosses the river. The pipelines for this project largely follow existing roads and utility corridors. Potential impacts on fish and aquatic habitats below the proposed project due to effects on water flow are minimal (BDDP 2010a; BLM and USFS 2007). An independent peer review was conducted on behalf of the Buckman Direct Diversion Board to obtain an independent analysis and synthesis of existing information to support a description of potential tap water health risks. This review found no risk to human health from drinking water provided by the Buckman Water Diversion Project (BDDP 2010b). A Memorandum of Understanding regarding water quality monitoring between the Buckman Direct Diversion Board and DOE was published on May 12, 2010, establishing the roles and responsibilities of each agency. The memorandum involves DOE's funding of sampling programs and analysis to ensure no contamination enters the water supply, as well as coordination and sharing of data obtained from sampling between both agencies (BDDP 2010a). In January 2011, the New Mexico Environment Department approved a fourth source of water to be distributed from the Buckman Direct Diversion Project to consumers in the City of Santa Fe and Santa Fe County. In spring 2011, the Buckman Direct Diversion Project provided approximately 15 million gallons (57 million liters) per day of drinking water (BDDP 2011).

- Windstream Communication's Fiber-Optic Project involves adding approximately 21 miles (43 kilometers) of buried fiber-optic cable in Sandoval County. The cable would link the Cuba exchange in the northeast with an existing fiber-optic line in the southwest (BLM 2009a). A Finding of No Significant Impact and Decision Record for the project were released on November 4, 2009. The project is approximately 40 miles (64 kilometers) northwest of LANL (BLM 2009b, 2009c).

- The Nutrias Prospect Oil Well involves Blue Dolphin Production, LLC, drilling an exploratory oil well in Rio Arriba County on public land leased to Blue Dolphin by BLM. The project is located approximately 50 miles northwest of LANL on a 1.43-acre (0.58-hectare) well pad. In addition to the pad, a 1,310-foot-long (399–meter-long) and 50-foot-wide (15–meter-wide) access road would be needed to connect the well pad to an existing road. The purpose of this project is to determine whether petroleum or other fossil hydrocarbons are present and, if so, whether their production is economically feasible. An environmental assessment and a biological survey report have been prepared, with the public comment period ending on July 3, 2011 (BLM 2011).

Another project would upgrade the existing 46-kilovolt transmission loop system that serves central Santa Fe County with a 115-kilovolt system (PNM 2005). No major new transmission lines are planned for the region around LANL (WAPA 2010).

No new Federal highways are planned within 50 miles (80 kilometers) of LANL (FHWA 2011). A number of state transportation projects are ongoing or planned. Many of these are relatively minor maintenance, upgrading, widening, and resurfacing projects. Some of the more-substantial transportation projects in the region include the following (NMDOT 2011):

- Santa Fe Cerrillos Road City Lead Project
- NM 599 Interchange at Jaguar Drive
- NM 41 Clark Hill to US 285 alignment study and environmental assessment
- Interstate 25 Corridor Study

Although maintenance of the transportation infrastructure in the region would continue and a number of upgrade, expansion, and widening projects are scheduled over the next 5 years or so, no new major highway projects are scheduled that could substantially contribute to cumulative impacts at LANL.

The list of EPA National Priorities List sites (also known as Superfund sites) was reviewed to determine whether these sites could contribute to cumulative impacts at LANL. Only one site is within 50 miles

(80 kilometers) of LANL. The North Railroad Avenue groundwater contamination plume is located over 12 miles (19 kilometers) from the LANL boundary in Rio Arriba County (EPA 2011).

Most of these actions at other sites are not expected to affect the cumulative impacts of LANL activities because of their distance from LANL; their routine nature; their relatively small size; and the zoning, permitting, environmental review, and construction requirements they must meet. Available documentation reviewed to assess cumulative impacts includes the following sources:

U.S. Bureau of Land Management

- *Final Environmental Impact Statement for the Buckman Water Diversion Project* (BLM and USFS 2007)
- An Independent Peer Review and a Memorandum of Understanding for the *Final Environmental Impact Statement for the Buckman Water Diversion Project* (BDDP 2010a, 2010b)
- *San Juan Public Lands (San Juan Field Center & San Juan National Forest) Final Environmental Impact Statement (EIS) Northern San Juan Basin Coal Bed Methane Project* (BLM 2006b)
- Draft Taos Resource Management Plan (BLM 2010a)
- *Environmental Assessment for Nutrias Prospect Oil Well* (BLM 2011)

U.S. Forest Service

- "Schedule of Proposed Action 1/01/2011 to 3/31/2011, Santa Fe National Forest" (USFS 2011)
- *Decision Notice and Finding of No Significant Impact for the Restoration of Los Alamos Dam and Reservoir* (USFS 2010b)

U.S. Bureau of Reclamation

- *Upper Rio Grande Basin Water Operations Review Final Environmental Impact Statement* (ACE, Reclamation, and ISC 2007)
- *Final Environmental Impact Statement City of Albuquerque Drinking Water Project* (Reclamation 2004)

National Park Service

- *Fire Management Plan for Bandelier National Monument* (NPS 2005)

State of New Mexico

- *2004–2006 State of New Mexico Integrated Clean Water Act §303(d) §305(b) Report* (NMED 2004)
- "State of New Mexico Standards for Interstate and Intrastate Surface Waters" (NMAC 20.6.4)

Most present and reasonably foreseeable future actions planned for LANL were addressed in the 2008 *LANL SWEIS*. In this section, cumulative site impacts are presented only for those resources that were not addressed in the 2008 *LANL SWEIS* and could reasonably be expected to be affected by the preferred alternative. These include site infrastructure, sustainability, air quality, ecological resources, human health effects of normal operations, waste management, and transportation of radioactive materials. Cumulative impacts associated with the remaining resource areas (such as socioeconomics and surface-water quality) would not change from those presented in the 2008 *LANL SWEIS* due to environmental impacts associated with implementing any of the alternatives evaluated in this SEIS. The methodology for assessing cumulative impacts is presented in Appendix B.

Site Infrastructure Requirement Impacts – Implementation of the Modified CMMR-NF Alternative would result in the greatest cumulative infrastructure impacts when added to the projected infrastructure requirements for other LANL activities and the demands of other non-LANL users. **Table 4–53** presents the estimated combined infrastructure requirements during construction of the Modified CMRR-NF in addition to other LANL and non-LANL requirements during the same timeframe. Included in the other LANL site requirements would be the continued operation of the CMR Building. Should the projections be fully realized, LANL and Los Alamos County could cumulatively require 97 percent of the current electric peak load capacity, 61 percent of the total available electrical capacity, 92 percent of the available water capacity, and 27 percent of the available natural gas capacity. In addition, 19,200 gallons (73,000 liters) of propane would be delivered by truck annually during the construction phase of the project. In the near term, no infrastructure capacity constraints are anticipated. LANL operational demands to date on key infrastructure resources, including electricity and water, have been below the levels projected in the 2008 *LANL SWEIS* and well within site capacities. For example, actual electric peak load for LANL in 2010 was approximately 69 megawatts compared to the 109 megawatts projected in the 2008 *LANL SWEIS* (LANL 2011a:Infrastructure 014). Inclusion of infrastructure requirements associated with the construction of potential alternatives being analyzed for the *GTCC EIS* at LANL could require an additional increase for electric peak load (3 percent), electricity (1 percent), and water (less than 1 percent) (DOE 2011b).

Table 4–53 Estimated Combined Infrastructure Requirements at Los Alamos (Construction)

Resource	*System Capacity* [a]	*LANL Current Site Requirement* [b]	*Current Los Alamos County Requirement* [b]	*Available System Capacity*	*Modified CMRR-NF Alternative* [c]	*Remaining Capacity*
Electricity						
Energy (megawatt-hours per year)	1,226,000	563,000	150,000	513,000	31,000	482,000
Peak load demand (megawatts)	140	101	23	16	12	4
Natural Gas (million cubic feet per year)	8,070	1,200	1,020	5,860	0	5,860
Water (million gallons per year)	1,807	412	1,241	153	4–5	148–149

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory.

[a] Data from 2008 *LANL SWEIS*, Chapter 5, Table 5–83, for the No Action Alternative.

[b] Data from Tables 3.4.1-1, 3.4.2-1, 3.4.2-2, 3.4.3-1 of the *SWEIS Yearbook – 2008* (LA-UR-10-03439), with the exception of the Los Alamos County requirement for natural gas, which was calculated using the projected requirement for the No Action Alternative in the 2008 *LANL SWEIS* (Table 5–83) and data from Table 3.4.1-1 of the *SWEIS Yearbook – 2008.* In addition, adjustments were made to reflect higher usage associated with the Metropolis Complex and Material Disposal Area remediation activities as included in the Expanded Operations Alternative in the *LANL SWEIS* (selected in the associated Records of Decision) and exclusion of requirements associated with the 2003 CMRR Facility, as included in the No Action Alternative in the *LANL SWEIS.*

[c] Data from Table 4–15 of this *CMRR-NF SEIS*.

Note: To convert gallons to liters, multiply by 3.7854; cubic feet to cubic meters, by 0.028317.

Source: DOE 2008b; LANL 2011a:Data Call Tables, 002, 003.

Table 4–54 presents the estimated combined infrastructure requirements of operating the Modified CMRR-NF and RLUOB in addition to other LANL and non-LANL requirements during the same timeframe. Requirements to operate the Modified CMRR-NF are higher than those associated with operating either the existing CMR Building (under the Continued Use of CMR Building Alternative) or those estimated for the 2004 CMRR-NF (under the No Action Alternative). Should these projections be fully realized, LANL and Los Alamos County could cumulatively require more than 100 percent of the current electric peak load capacity, 71 percent of its total available electrical capacity, 92 percent of the available water capacity, and 28 percent of the available natural gas capacity. Of most concern is the potential to exceed electric peak load capacity. Regardless of the decisions to be made regarding the CMRR-NF, adding a third transmission line and/or reconductoring the existing two transmission lines are being studied by LANL to increase transmission line capacities up to 240 megawatts, providing additional capacity across the site. If the proposed TA-50 electrical substation is constructed, it would provide reliable additional electrical power as the independent power feed to the existing TA-55 complex and the CMRR Facility. LANL is also considering establishing an independent power feed to the existing TA-55 complex and the CMRR Facility from TA-3 or TA-5/52 along existing utility rights-of-way. If additional capacity and reliability can be added to the existing TA-3 substation, this would negate the need to build the proposed TA-50 substation.

Table 4–54 Estimated Combined Infrastructure Requirements at Los Alamos (Operations)

Resource	*System Capacity* [a]	*Current LANL Requirement* [b]	*Current Los Alamos County Requirement* [b]	*Available System Capacity*	*Modified CMRR-NF Alternative* [c]	*Remaining Capacity*
Electricity						
Energy (megawatt-hours per year)	1,226,000 [d]	563,000	150,000	513,000	161,000	352,000
Peak load demand (megawatts)	140 [d]	101	23	16	26	0
Natural Gas (million cubic feet per year)	8,070	1,200	1,020	5,860	58	5,800
Water (million gallons per year)	1,807	412	1,241	153	16	137

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LANL = Los Alamos National Laboratory.

[a] Data from 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (LANL SWEIS)*, Chapter 5, Table 5–83, for the No Action Alternative.

[b] Data from Tables 3.4.1-1, 3.4.2-1, 3.4.2-2, 3.4.3-1 of the *SWEIS Yearbook – 2008* (LA-UR-10-03439), with the exception of the Los Alamos County requirement for natural gas, which was calculated using the projected requirement for the No Action Alternative in the 2008 *LANL SWEIS* (Table 5–83) and data from Table 3.4.1-1 of the *SWEIS Yearbook – 2008*. In addition, adjustments were made to reflect higher usage associated with the Metropolis Complex and Material Disposal Area remediation activities as included in the Expanded Operations Alternative in the *LANL SWEIS* (selected in the associated Records of Decision) and exclusion of requirements associated with the 2003 CMRR Facility, as included in the No Action Alternative in the *LANL SWEIS*.

[c] Data from Table 4–17 of this *CMRR-NF SEIS*.

[d] Does not include addition of an electrical substation in TA-50 capable of providing up to another 40 megawatts peak load capacity.

Note: To convert gallons to liters, multiply by 3.7854; cubic feet to cubic meters, by 0.028317.

Sources: DOE 2008b; LANL 2011a:Infrastructure, 011, 012, 013.

Los Alamos County, as owner and operator of the Los Alamos Water Supply System, is now the primary water supplier serving LANL. DOE transferred ownership of 70 percent of its water rights to the county and leases the remaining 30 percent. LANL is currently using approximately 76 percent of its water allotment, and the county is using about 98 percent of its allotment. County concerns about its water availability will be heightened if development plans move forward for construction of additional homes in White Rock and Los Alamos on land that is being conveyed to the county from LANL.

Los Alamos County has implemented a *Conservation Plan for Water and Energy* (LADPU 2010a). In this plan, the county describes a number of steps it has taken to conserve water, including an effluent reuse washwater system associated with the county's wastewater treatment plant that is estimated to conserve approximately 12 million gallons (45 million liters) annually (LADPU 2010a). Los Alamos County has the right to use up to 390 million gallons (1.5 billion liters) of San Juan-Chama Transmountain Diversion Project water annually and is in the process of determining how best to make this water accessible to the county (LADPU 2010a). Neither the conservation savings nor the San Juan-Chama water was included in the analysis shown above.

In addition, the use of the Sanitary Effluent Reclamation Facility at LANL may be expanded to include other areas of LANL. Plans are to expand the Sanitary Effluent Reclamation Facility to provide additional treatment to treated effluent from the Sanitary Wastewater Systems Plant to allow the reclaimed water to be used to support the nonpotable water demands for the TA-3 Power Plant, the Metropolis Center for Modeling and Simulation, and the Laboratory Data Communications Center. Such expansions could save millions of gallons of water annually.

Sustainability—Concern for sustainability of resources is increasing in response to a variety of limiting factors. Not only is the Federal Government responding to this direction, but also state and local governments and private citizens. At every level, conservation and "green" practices and choices are taking hold to conserve natural resources by using them efficiently. DOE has responded to this by adopting policy and issuing directives that require the inclusion of sustainable principles in building design.

As described in Appendix B, Section B.2.3, LANL is responsible for meeting goals for conserving and reducing water and energy use on a site-wide effort. The *LANL Engineering Standards Manual* (ISD 341-2, Chapter 14), *LANL Sustainable Design Guide* (2002) provides direction for energy- and water-efficient design and construction of new and renovated facilities. These closely mirror the principles and strategies embedded in achieving Leadership in Energy and Environmental Design® (LEED) certification under the various U.S. Green Building Council rating systems. Improved performance in new and existing facilities, decommissioning of older facilities, and improving the performance of existing infrastructure are all needed strategies to meet long-term goals for reduced consumption.

As part of its site-wide commitment to sustainability, LANL outlined goals and methods in the *Fiscal Year 2011 Site Sustainability Plan* (LANL 2010e) for managing energy and water needs and controlling its generation of greenhouse gases. The plan balances the need to provide for demands of its specialized nuclear facilities and evolving capabilities with those of achieving sustainability goals site-wide. Some planned projects are specifically aimed at improving supply infrastructure, such as the Sanitary Effluent Reclamation Facility and the planned addition of the electrical substation in TA-50. The plan identifies actions for providing onsite renewable energy systems, such as coordination with Los Alamos County to modify existing utility contracts to allow for purchasing of electricity from photovoltaic sources.

Other measures address pollution prevention and minimization of waste. Measures to achieve this are varied. For example, recommissioning existing heating, ventilating, and air conditioning systems ensure the systems are operating efficiently. Requiring high-performing, sustainable building standards in new construction and major renovations and reducing the footprint of heated space (through demolition of outdated and redundant facilities) will achieve a more-effective use of energy and reduce water use over the long term. Other projects would replace old, inefficient systems and equipment (such as the old steam plant). Bringing on Smart Grid technologies over the next 5 years would manage demand and energy flow, reducing the need to size systems for high peak demands. Implementation of a Sustainable Acquisition Plan and Energy Savings Performance Contracts will require vendors and contractors to provide products and services that meet sustainable criteria for environmentally preferable, non-ozone-depleting, recycled content and nontoxic materials, as well as energy efficiency. The benefits of these changes will take several years to fully realize and will depend on future funding.

The inclusion of LEED certification for new facilities (including the Modified CMRR-NF) is part of the larger effort to reduce energy intensity at LANL and to shift to sustainability. The Modified CMRR-NF incorporates these goals to the extent achievable while meeting other requirements for safety and security. The inclusion of energy- and water-efficient systems and design and the use of environmentally sound materials and construction practices would lessen the anticipated impact of this new facility on achieving site-wide sustainability compared to an equivalent standard facility without these measures.

Air Quality Impacts—The effect of operations at the Modified CMRR-NF under the Modified CMRR-NF Alternative on air quality conditions at LANL would be equal to or higher than those estimated under either the Continued Use of CMR Building or No Action Alternative because of the larger number of backup generators (seven) being tested in the Modified CMRR-NF. The effect of the Modified CMRR-NF would be well within the levels of concentrations analyzed under the No Action Alternative in the *LANL SWEIS*, which were below the New Mexico Ambient Air Quality Standards and Federal standards for all of the criteria pollutants. As such, LANL would remain in compliance with all Federal and state ambient air quality standards, as shown in **Table 4–55**. Effects on air quality from associated construction and excavation activities would be temporary and localized, as discussed in the air quality sections of this chapter.

Table 4–55 Nonradiological Air Quality Concentration at Technical Area 55 Site Boundary – Operations

Criteria Pollutant	*Averaging Time*	*New Mexico Ambient Air Quality Standards (ppm)*	*Calculated Concentration (ppm)* [a]	*Maximum Facility-Wide Concentration (ppm)* [a]
Carbon monoxide	1 hour	13	0.002	1.2
	8 hours	8.7	0.001	0.22
Nitrogen dioxide	Annual	0.05	0.000079	0.00
Sulfur dioxide	3 hours [b]	0.5	0.001	0.20
	24 hours	0.1	0.00018	0.04
	Annual	0.02	0.000035	0.00
PM_{10}	24 hours	150 μg/m^3	0.031 μg/m^3	102 μg/m^3
Total suspended particulates	24 hours	150 μg/m^3	0.031 μg/m^3	135 μg/m^3
	Annual	60 μg/m^3	0.006 μg/m^3	5.7 μg/m^3

μg/m^3 = micrograms per cubic meter; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 micrometers; ppm = parts per million.

[a] The annual concentrations were analyzed at locations to which the public has access: the site boundary and nearby sensitive areas. Short-term concentrations were analyzed at the site boundary and at the fence line of the technical area to which the public has short-term access.

[b] New Mexico does not have a standard for sulfur dioxide 3-hour or PM_{10} 24-hour; thus, the Federal standard was used.

Source: DOE 2003a, 2008a.

Greenhouse Gas Impacts—The greenhouse gases emitted by operations at the Modified CMRR-NF and RLUOB would add a relatively small increment to emissions of these gases in the United States and the world. Overall greenhouse gas emissions in the United States during 2009 totaled about 6,575 million tons (5,965 million metric tons) of carbon-dioxide equivalent (DOE 2011c). By way of comparison, annual operational emissions of greenhouse gases from the Modified CMRR-NF and RLUOB would equal about 0.002 percent of the United States' total emissions in 2009. However, emissions from the proposed facility in combination with past and future emissions from all other sources would contribute incrementally to climate change. At present, there is no methodology that would allow DOE to estimate the specific impacts this increment of climate change would produce in the vicinity of the facility or elsewhere.

The U.S. Global Change Research Program report, *Global Climate Change Impacts in the United States*, states that the U.S. average temperature has risen by an amount comparable to global increases and is very likely to rise more than the global average over this century, with some variation from place to place. These climate changes in the southwest United States could result in a drier future climate. Combined with the historical record of severe drought and the current uncertainty regarding the exact causes and drivers of these past events, the Southwest must be prepared for droughts that could potentially result from multiple causes. The types of environmental changes resulting from severe drought and other regional climate changes could include in an increased risk of drought and flooding, resulting in greater risk to human beings and their infrastructure, impacts on urban air quality and electricity demands, and a change in tourism and recreation (Karl et al. 2009). Of those environmental changes, drought and wildfire could potentially result in impacts under the three alternatives in this *CMRR-NF SEIS*. The CMR Building and the Modified CMRR-NF would not present significant risk due to drought and wildfires because of the noncombustible materials used in their construction and because they are surrounded by buffer areas in which combustible materials, including vegetation, are kept to a minimum. Therefore, even if the frequency of wildfires is increased by global climate change, these facilities would not be directly affected (see Appendix C). Other facilities at LANL could potentially be more susceptible to impacts from wildfires. Actions were taken at LANL following the recent Las Conchas fire that will reduce those impacts even further. These actions included installing additional stormwater controls and monitoring systems in canyon bottoms where trace Cold War-era contamination may be present, removing more than 1,200 cubic yards (920 cubic meters) of sediment in anticipation of flash flooding, and installing sampling gauges on the Laboratory's western boundary to compare run-on water with run-off water (LANL 2011g). Water use at LANL is expected to remain below its allotment under all three alternatives, so there would likely be no impact from lack of sufficient water for construction and operation (see Infrastructure sections). Some of the climate change effects may eventually necessitate adaptation in activities at LANL, including increased consideration of the effects of heat stress on employees' activities, increased attention to dust control, and changes in stormwater management practices.

Ecological Resources Impacts—Most of the construction activities for the Modified CMRR-NF would take place on previously disturbed land with little value as habitat. There would be short-term impacts on non-protected species. Best management practices and implementation measures set forth in the LANL *Threatened and Endangered Species Habitat Management Plan for Los Alamos National Laboratory* (LANL 2011c) and supporting documentation would be used during construction activities across the site, including on those associated with the proposed Modified CMRR-NF site and its various support areas (laydown areas, batch plants, spoils areas, parking areas) to minimize the potential for adverse effects on plant and animal communities and on threatened and endangered or special interest species. Proposed construction sites and associated support areas would be surveyed for the presence of special status species, including threatened and endangered species, before construction begins, and appropriate actions would be developed. After construction, temporary structures would be removed and the sites would be regraded and revegetated with native species. Since actions associated with construction of the Modified CMRR-NF would minimally impact ecological resources at LANL, they would not meaningfully contribute to cumulative impacts to these resources within the region.

Public and Occupational Health and Safety – Normal Operations Impacts—**Table 4–56** presents the estimated cumulative impacts of radiological emissions and radiation exposure under the 2008 *LANL SWEIS* Expanded Operations Alternative (DOE 2008a), the doses associated with operation of the Modified CMRR-NF and RLUOB under the Modified CMRR-NF Alternative of this SEIS, plus doses associated with the disposal of greater-than-Class C waste at LANL. The estimated doses under the

LANL SWEIS Expanded Operations Alternative, which reflects the highest level of operations that would be expected to occur at LANL, represent a conservative estimate of the doses that could result from ongoing LANL activities because they include doses associated with the continued operation of the Los Alamos Neutron Science Center (LANSCE) and ongoing remediation of MDAs at LANL. Operation of LANSCE is the predominant contributor to offsite dose to the population surrounding LANL. Remediation of MDAs at LANL is the predominant contributor to worker dose.

Table 4–56 Estimated Cumulative Radiological Impacts from Normal Operations

	Maximally Exposed Individual		*Population Within 50 Miles (80 kilometers)*		*Site Workers*	
	Dose (millirem per year)	***LCF Risk per Year***	***Collective Dose (person-rem per year)***	***Excess LCFs per Year***	***Collective Dose (person-rem per year)***	***Excess LCFs per Year***
LANL SWEIS Expanded Operations Alternative	8.2	4.9×10^{-6}	36	0.022	543	0.33
Modified CMRR-NF Alternative	0.31	1.9×10^{-7}	1.8	0.001	Included above	Included above
GTCC EIS	N/A	N/A	N/A	N/A	5	0.003
Total LANL Dose	8.5	5.1×10^{-6}	37.8	0.023	548	0.33

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; LCF = latent cancer fatality; N/A = not available.
Source: DOE 2008a, 2011b.

The Modified CMRR-NF Alternative impacts are expected to be about equal to those that would have been realized from operation of the 2004 CMRR-NF and greater than those associated with continued operation of the CMR Building due to reduced operations at that building. In addition, the *LANL SWEIS* totals include operation of the CMRR Facility, and this analysis does not make any adjustment for a reduction in dose that would be realized when the existing CMR Building is completely shut down. Beyond activities at LANL, no other activities in the area surrounding LANL are expected to result in radiological impacts on the public beside those associated with natural background radiation and other background radiation, as discussed in Chapter 3, Section 3.11.1. The projected dose from continued LANL operations is a small fraction of the dose persons living near LANL receive annually from natural background radiation and other sources such as diagnostic x-rays.

No LCFs are expected for the MEI or the general population. The dose to the offsite MEI is expected to remain within the 10-millirem-per-year limit required by 40 CFR Part 61, Subpart H, "National Emission Standards for Emissions of Radionuclides Other than Radon from Department of Energy Facilities." There would be a small increase in the annual risk of an LCF among the general public from LANL operations: from 1 chance in 45 to 1 chance in 43.

If the Expanded Operations Alternative MDA Removal Option were implemented, collective worker doses would average approximately 540 person-rem per year. The addition of impacts from the operation of the Modified CMRR-NF and RLUOB would not change this estimate because the worker dose of approximately 61 person-rem per year was included in the estimate in the 2008 *LANL SWEIS* (DOE 2008a). The 540 person-rem projected dose under the Expanded Operations Alternative in the *LANL SWEIS* corresponds to an annual risk of an LCF in the worker population of 0.3 (or for each 3 years of operation, 1 chance of an LCF in the worker population). Worker doses would decrease by about 140 person-rem per year after the MDA remediation work is completed (DOE 2008a). Inclusion of the *GTCC EIS* (DOE 2011b) estimate for work at LANL, should that alternative be chosen, would add about 5 person-rem per year, but would not increase the annual risk to workers appreciably. Individual worker doses would be maintained as low as is reasonably achievable and within applicable regulatory limits.

The estimated doses shown in Table 4–56 are a very small fraction of the normal background dose received by the population in and around LANL. Chapter 3, Section 3.11.1, of this *CMRR-NF SEIS* provides an analysis of radiation in the environment around LANL that is attributed to external, naturally occurring radiation and radiation from past and present operations at LANL. Natural background radiation was estimated to range from approximately 340 to 580 millirem per year, compared to the estimated doses from LANL operations of 8.5 millirem per year to the MEI and less than 0.1 millirem per year to the average individual living within 50 miles (80 kilometers) of LANL.

Waste Management Impacts—Cumulative amounts of waste generated at LANL would be greatest if the Expanded Operations Alternative described in the 2008 *LANL SWEIS* (DOE 2008a) is fully implemented. This alternative included substantial waste generation rates at LANL, largely due to remediation of MDAs and DD&D of facilities. **Table 4–57** presents the estimated annual amount of radioactive and nonradioactive waste that would be generated at LANL if the Modified CMRR-NF is constructed and DD&D of the existing CMR Building is performed. The Modified CMRR-NF Alternative waste generation rates are expected to be about equal to those that would have be realized from operation of the 2004 CMRR-NF and greater than those associated with continued operation of the CMR Building due to reduced operations at that building. Table 4–57 also includes the revised waste generation estimates associated with DD&D of the CMR Building (see Section 4.5.1).

The contribution to cumulative waste management impacts from other proposed actions at LANL, particularly the overall waste generation at LANL during the next 10 years from the disposition of buildings and environmental restoration efforts, could be large. Construction and demolition wastes would be recycled and reused to the extent practicable. Existing waste treatment and disposal facilities would be used according to specific waste types. The estimated waste generation totals for LANL have been adjusted to reflect the cancellation of the Global Nuclear Energy Partnership program, the decision not to build a Consolidated Nuclear Facility at LANL, and a reduction in the amount of waste associated with building pits at LANL. The Expanded Operations Alternative in the 2008 *LANL SWEIS* included waste associated with the production of 80 pits per year at LANL. NNSA decisions did not include this expansion of pit production at LANL so the waste associated with this expansion has been removed from the 2008 projection.

Transuranic wastes generated during DD&D of the existing CMR Building would be within the level of impacts forecast under the Expanded Operations Alternative described in the 2008 *LANL SWEIS*. The available capacity of WIPP, or the new capacity of its replacement facility, is expected to be sufficient to accommodate the estimated cumulative volumes of transuranic waste from LANL operations (DOE 2008a). After the adjustments discussed above, site-wide waste projections would be higher for construction and demolition waste than those estimated under the Expanded Operations Alternative in the 2008 *LANL SWEIS* (DOE 2008a) due to the increased waste estimates for DD&D of the existing CMR Building. As described in the 2008 *LANL SWEIS*, low-level radioactive waste generation rates would be substantial under the Expanded Operations Alternative if all waste from MDAs were removed. Offsite disposal options for most of the low-level radioactive waste at LANL include NNSA's NNSS and commercial facilities (DOE 2008a). Mixed low-level radioactive waste generation is also projected to potentially increase, but the quantity would be much smaller than the quantity of low-level radioactive waste generated. Mixed low-level radioactive waste may be sent off site for treatment of the hazardous component and possibly returned to LANL (or elsewhere) for disposal as low-level radioactive waste. For commercial facilities, some restrictions apply to acceptance of waste based on the origin (state of origin and DOE- or non-DOE-generated) and radiological characteristics of the waste.

Table 4–57 Estimated Annual Cumulative Waste Generated at Los Alamos National Laboratory (cubic yards)

Waste Type	*LANL Operations* [a]	*CMRR-NF SEIS Modified CMRR-NF Alternative* [b]	*CMR Building DD&D* [c]	*Revised LANL Operations*
Expanded Operations Transuranic	530 to 3,300	88	38 to 75	570 to 1,030
Less Manufacturing of up to 80 Pits	0 to -250			
Less GNEP	0 to -900			
Less Consolidated Nuclear Facility	0 to -1,200			
Less earlier CMR Building Operations Estimate	-90			
Less earlier CMR Building DD&D Estimate	0			
Plus GTCC [d]	0			
Revised Total	440 to 870			
Low-level radioactive	27,700 to 141,400	2,640	9,500 to 19,000	33,000 to 137,000
Less Manufacturing of up to 80 Pits	0 to -410			
Less GNEP	0 to -3,400			
Less Consolidated Nuclear Facility	0 to -12,000			
Less earlier CMR Building Operations Estimate	-2,600			
Less earlier CMR Building DD&D Estimate	-4,000 to -8,000			
Plus GTCC [d]	5			
Revised Total	21,000 to 115,000			
Mixed low-level radioactive	390 to 18,300	26	70 to 140	420 to 18,300
Less Manufacturing of up to 80 Pits	0			
Less GNEP	0 to -4			
Less Consolidated Nuclear Facility	0 to -72			
Less earlier CMR Building Operations Estimate	-30			
Less earlier CMR Building DD&D Estimate	-38 to -75			
Plus GTCC [d]	0			
Revised Total	320 to 18,100			
Construction and Demolition Waste	64,000 to 72,000	2600	27,500 to 55,000	177,000 to 208,000
Less earlier CMR Building DD&D Estimate	-5,000 to -10,000			
Plus GTCC [d]	88,000			
Revised Total	147,000 to 150,000			
Chemical Waste (million pounds)	6.4 to 12.9	0.024	0.13	6.6 to 11.8
Less Consolidated Nuclear Facility	0 to -1.4			
Less earlier CMR Building Operations Estimate	-0.025			
Plus GTCC [d]	0.05			
Revised Total	6.4 to 11.5			

CMR = Chemistry and Metallurgy Research; CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility; DD&D = decontamination, decommissioning, and demolition; GNEP = Global Nuclear Energy Partnership; GTCC = greater-than-Class C; LANL = Los Alamos National Laboratory.

[a] Data from Table 5–84 of the 2008 *LANL SWEIS* Expanded Operations Alternative divided by 10 to show annual rates, except GTCC.

[b] Data from Table 4–35 of this *CMRR-NF SEIS*, except GTCC.

[c] Data from Table 4–50 of this *CMRR-NF SEIS*, except GTCC. Work to be done over a 2- to 4-year period.

[d] Highest annual data computed from information in Table 5.3.11–1 of the *GTCC EIS* (DOE 2011b).

Note: To convert cubic yards to cubic meters, multiply by 0.76456.

Source: DOE 2008a; LANL 2011a:Data Call Tables, 004.

Significant quantities of nonradioactive solid wastes, including construction and demolition debris, would be generated under the Expanded Operations Alternative if all wastes were removed from MDAs. Demolition of the CMR Building would increase the lower and upper bounds of this estimate based on the latest projections for the amount of this waste that may be generated during the demolition period. Construction of the Borehole Alternative for disposal of greater-than-class C waste at LANL would also increase the generation of solid waste at LANL, should this alternative be implemented. The closure of the Los Alamos County Landfill means that solid wastes would be disposed of via the Los Alamos County Eco Station, where wastes would be segregated and then transported to an appropriately permitted solid waste landfill. Construction and demolition wastes would be recycled and reused to the extent practicable.

Debris that cannot be recycled would be disposed of at solid waste landfills or construction and demolition debris landfills.

Radioactive Material Transportation Impacts—The collective doses, cumulative health effects, and traffic fatalities resulting from approximately 130 years (from 1943 to 2073) of radioactive material and waste transport across the United States were estimated in Table 5–85 of the 2008 *LANL SWEIS*[28] (DOE 2008a). The total collective worker doses from all types of shipments (general transportation, historical DOE shipments, reasonably foreseeable actions, and shipments under the 2008 *LANL SWEIS* No Action Alternative) were estimated to be 381,700 person-rem. The total collective doses to the general public were estimated to be 343,680 person-rem, which would result in about 206 excess LCFs among the affected general population. The total estimated traffic fatalities associated with accidents involving radioactive material and waste transports would be up to 119. The majority of the collective doses for workers and the general population would be associated with the general transportation of radioactive material. Examples of these activities include shipments of radiopharmaceuticals to nuclear medicine laboratories and shipments of commercial low-level radioactive waste to commercial disposal facilities. The majority of the traffic fatalities would be due to the general transportation of radioactive materials (28 fatalities) and reasonably foreseeable actions (85 fatalities). The estimated doses associated with radioactive material transportation associated with the Modified CMRR-NF under any of the alternatives being considered in this SEIS, and as described in Section 4.3.13, would not change these estimates.

4.7 Mitigation

Following the issuance of a ROD, NNSA is required to prepare a mitigation action plan that addresses any mitigation commitments expressed in the ROD (10 CFR 1021.331). The mitigation action plan would explain how certain measures would be planned and implemented to mitigate any adverse environmental impacts identified in the ROD. The mitigation action plan would be prepared before NNSA would take any action requiring mitigation.

Based on the analyses of the environmental consequences resulting from the proposed action, no mitigation measures would be necessary for many of the resource areas because the potential environmental impacts would be well below acceptable levels of promulgated standards. Activities would follow standard procedures for minimizing construction impacts on air and surface-water quality, noise, operational and public health and safety, and accident prevention. These practices are required by Federal and state licensing and permitting requirements, as discussed in Chapter 5. The 2008 *LANL SWEIS* (DOE 2008a) provides a discussion of existing programs and controls at LANL that ensure that construction activities and operations are performed within the constraints of applicable regulations, applicable DOE orders, contractual requirements, and approved policies and procedures. Examples of these programs and controls include the Environmental Surveillance and Compliance Program, the *Threatened and Endangered Species Habitat Management Plan*, the *Cultural Heritage Management Plan*, the NPDES Industrial Stormwater Permit Program, and the Groundwater Protection Management Program.

Public comments indicated concern about water usage and construction traffic. The following paragraphs discuss possible mitigation actions for these, as well as electrical usage.

Although projections indicate that LANL operational demands would remain within the site's annual water use ceiling quantity, total water demand within LANL and Los Alamos County is approaching 92 percent of the county-managed rights to withdraw water from the regional aquifer. Water reduction goals at LANL include reducing the use of potable water by at least 16 percent of the 2007 level by fiscal year 2015. Executive Order 13514 requires a 26 percent reduction in potable water use by fiscal year 2020, as well as

[28] *Included in these estimates for LANL were shipments associated with the CMR Building and the CMRR Project.*

a 20 percent reduction in industrial, landscaping, and agricultural water use by fiscal year 2020 from a fiscal year 2010 baseline. In light of these goals, the CMRR Project is investigating the use of treated effluent water in construction activities.

With the additional projected demands of the Modified CMRR-NF, peak electrical power demand could exceed current capacity. Independent of a decision on the CMRR-NF, adding a third transmission line and/or reconductoring two existing lines to increase transmission capacity to LANL and Los Alamos County are being studied. One or both of these actions, plus construction of the proposed TA-50 substation or providing another power feed from the TA-3 substation, would add the capacity to meet the peak power demand.

Construction of the Modified CMRR-NF would affect both traffic on the roads around LANL and on site. There would be up to 790 construction workers during the peak construction period under both options of the Modified CMRR-NF Alternative. Under this alternative, construction workers would park their personal vehicles in a parking lot to be built in TA-72 and would be shuttled by bus to the construction site. Scheduling work shifts and transportation of construction materials to off-peak times may alleviate traffic congestion if that becomes a problem. In addition, lighting in the parking lot could be turned off at night when not required by workers to mitigate light impacts on nearby areas.

4.8 Resource Commitments

This section describes the unavoidable, adverse environmental impacts that could result from the proposed action; the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity; and irreversible and irretrievable commitments of resources. Unavoidable, adverse environmental impacts are impacts that would occur after implementation of all feasible mitigation measures. The relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity addresses issues associated with the condition and maintenance of existing environmental resources used to support the proposed action and the utility of these resources after their use. Resources that would be irreversibly and irretrievably committed are those that cannot be recovered or recycled and those that are consumed or reduced to unrecoverable forms.

4.8.1 Unavoidable, Adverse Environmental Impacts

Implementing the alternatives considered in this *CMRR-NF SEIS* would result in unavoidable, adverse impacts on the human environment. In general, these impacts would come from incremental impacts attributed to the operations of either the existing CMR Building or a CMRR-NF at TA-55.

CMRR-NF and RLUOB operations at LANL would have minimal unavoidable, adverse impacts related to air emissions and greenhouse gas emissions. Air emissions would include various chemical or radiological constituents in the routine emissions typical of nuclear facility operations, although CMRR-NF and RLUOB activities would not release major emissions to the atmosphere at LANL. Air emissions at LANL would occur regardless of CMRR-NF and RLUOB activities. These impacts have been addressed in various LANL NEPA documents. Overall air quality at LANL would not be changed by implementing any of the alternatives analyzed in this SEIS.

Operations at the existing CMR Building or the CMRR-NF at TA-55 would result in unavoidable radiation exposure to workers and the general public. Workers would be exposed to radiation and chemicals associated with analytical chemistry and materials characterization, uranium processing, actinide research, processing and fabrication, and metallography. The incremental annual dose contribution from operations at the existing CMR Building or the CMRR-NF at TA-55 to the offsite MEI, general population, and workers is discussed in Sections 4.2.10, 4.3.10, and 4.4.10.

The generation of radioactive and nonradioactive waste would be unavoidable. Any waste generated during operations would be collected, treated, stored, and eventually removed for suitable recycling or disposal in accordance with applicable EPA regulations.

The decontamination and decommissioning of the CMR Building would result in the one-time generation of radioactive and nonradioactive waste material that could affect storage requirements. This would be an unavoidable impact on the amount of available and anticipated storage space and the requirements of disposal facilities at LANL or off site.

Temporary construction impacts associated with the construction of the CMRR-NF at TA-55 would also be unavoidable. These impacts would include the generation of fugitive dust; noise; associated greenhouse gases; increased construction vehicle and worker traffic; temporary disruption of habitat for non-protected species; and the use of resources, including land, mineral, and energy resources.

4.8.2 Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Implementation of any of the proposed alternatives, including the No Action Alternative, would cause short-term commitments of resources and would permanently commit certain resources (such as energy). Under each alternative, the short-term use of resources would result in potential long-term benefits to the environment and the enhancement of long-term productivity by decreasing overall health risks to workers, the public, and the surrounding environment by reducing their exposure to hazardous and radioactive substances.

Under the proposed action, overall CMRR-NF and RLUOB operations would not change from those operations described in the 2008 *LANL SWEIS* (DOE 2008a) for the existing CMR Building. The short-term use and commitment of environmental resources under the No Action and Modified CMRR-NF Alternatives would include the use of space and materials required to construct the new building, the commitment of new operations support facilities, transportation, and use of other consumable resources and materials for CMR operations. Workers, the public, and the environment would be exposed to increased amounts of hazardous and radioactive materials over the short term from the relocation of CMR Building operations under these alternatives and the associated materials, including process emissions and the handling of waste from equipment refurbishment.

Regardless of the alternative selected, air emissions associated with either the existing CMR Building or the CMRR-NF and RLUOB would introduce small amounts of radiological and nonradiological constituents to the air of the regions around LANL. These emissions would result in additional air pollutants and exposure, but would not impact compliance with air quality or radiation exposure standards at LANL. There would be no significant residual environmental effects on long-term environmental viability.

The management and disposal of sanitary solid waste and nonrecyclable radiological waste over the project's lifespan would require a small increase in energy and space at LANL treatment, storage, and disposal facilities or their replacement offsite disposal facilities. Regardless of the alternative selected, land required to meet the solid waste needs would require a long-term commitment of terrestrial resources.

Continued employment, expenditures, and tax revenues generated during the implementation of any of the alternatives would directly benefit the local, regional, and state economies over the short term. Long-term economic productivity could be facilitated by local governments investing project-generated tax revenues into infrastructure and other required services.

The short-term resources needed to construct and operate the CMRR-NF and RLUOB at LANL would not affect the long-term productivity of LANL. Workers, the public, and the environment could be exposed to increased amounts of hazardous and radioactive materials over the period of construction due to relocation of materials, including process emissions, and handling of radioactive waste.

4.8.3 Irreversible and Irretrievable Commitments of Resources

Irreversible and irretrievable commitments of resources under each alternative potentially would include land, mineral, and energy resources during the lifespan of the project and the energy and water used during operations.

Energy expended would be in the form of fuel for equipment and vehicles, electricity for facility operations and construction (under some alternatives), and human labor. CMRR-NF construction and CMRR-NF or CMR Building and RLUOB operations would generate nonrecyclable waste streams, such as radioactive and nonradioactive solid waste and some wastewater. Construction of CMRR-NF would consume large quantities of construction materials such as steel, sand, gravel, flyash, and cement. However, certain materials and equipment used during construction and operations could be recycled.

Land would be used for both the construction of a new facility and the disposal of hazardous and radioactive waste. The commitment of land for the new facility is discussed in Sections 4.2.2, 4.3.2, and 4.4.2.

CHAPTER 5
APPLICABLE LAWS, REGULATIONS, AND OTHER REQUIREMENTS

5 APPLICABLE LAWS, REGULATIONS, AND OTHER REQUIREMENTS

5.1 Introduction

As part of the National Environmental Policy Act (NEPA) process, an environmental impact statement (EIS) must consider whether actions described under its alternatives would threaten a violation of Federal, state, or local law or requirement imposed for the protection of the environment (40 *Code of Federal Regulations* [CFR] 1508.27) or require a permit, license, or other entitlement (40 CFR 1502.25). This chapter provides a summary of environmental requirements, agreements, and permits that relate to consolidation and relocation of mission-critical chemistry and metallurgy research (CMR) capabilities. This chapter includes the requirements from the 2003 *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE 2003b) that remain valid, as well as new requirements identified since the first EIS was prepared.

A number of Federal environmental laws affect environmental protection, health, safety, compliance, and/or consultation at every U.S. Department of Energy (DOE) location. Certain environmental requirements also have been delegated to state authorities for enforcement and implementation, and state legislatures have adopted additional laws to protect health and safety and the environment. It is DOE policy to conduct its operations in a manner that ensures the protection of public health, safety, and the environment through compliance with all applicable Federal and state laws, regulations, directives, and other requirements.

The various action alternatives analyzed in this *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* involve either the operation of existing DOE facilities or the construction and operation of new DOE facilities and the transportation of materials. Actions required to comply with statutes, regulations, and other Federal, state, and local requirements may depend on whether a facility is newly built (preoperational) or is incorporated in whole or in part into an existing facility. Chapter 2 provides a detailed discussion of these alternatives.

5.2 Background

Requirements governing the consolidation and relocation of CMR operations arise primarily from six sources: Congress, Federal agencies, Executive orders, state legislatures, state agencies, and local governments. In general, Federal statutes establish national policies, create broad legal requirements, and authorize Federal agencies to create regulations that conform to the statutes. Detailed implementation of these statutes is delegated to various Federal agencies such as DOE, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency (EPA). For many environmental laws under EPA jurisdiction, state agencies may be delegated responsibility for the majority of program implementation activities, such as permitting and enforcement, but EPA usually retains oversight of the delegated program.

Some applicable laws, such as NEPA, the Endangered Species Act, and the Emergency Planning and Community Right-To-Know Act, require specific reports and/or consultations rather than ongoing permits or activities. Such requirements would be satisfied through the legal/regulatory process, including preparation of this *CMRR-NF SEIS*, leading to the consolidation and relocation of CMR operations.

Other applicable laws establish general requirements that must be satisfied, but do not include processes (such as the issuance of permits or licenses) to consider compliance prior to specific instances of violations or other events that trigger their provisions. These include the Toxic Substances Control Act (which addresses polychlorinated biphenyl [PCB] transformers and other designated substances); the Federal Insecticide, Fungicide, and Rodenticide Act; the Hazardous Materials Transportation Act; and (in the case of a hazardous substance spill) the Comprehensive Environmental Response, Compensation, and Liability Act (also known as Superfund).

Executive orders establish policies and requirements for Federal agencies. Such orders are applicable to Executive branch agencies, but do not have the force of law or regulation.

State legislatures develop their own laws to supplement, as well as implement, Federal laws for protection of air, water, and groundwater quality. State legislation may address solid waste management programs; locally rare or endangered species; and local resource, historic, and cultural values. The laws of local governments add an additional level of public protection, often focusing on zoning, utilities, and public health and safety concerns.

Regulatory agreements and compliance orders may also be initiated to establish responsibilities and timeframes for Federal facilities to come into compliance with provisions of applicable Federal and state laws. There are also other agreements, memoranda of understanding, or formalized arrangements that establish cooperative relationships and requirements.

The alternatives being considered for the consolidation and relocation of CMR operational capabilities and materials would all be located within New Mexico, on Los Alamos National Laboratory (LANL) property controlled by DOE. For a broader review of environmental regulations and compliance issues at LANL, see the 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE 2008a).

DOE has authority to regulate some environmental activities, as well as the health and safety aspects of nuclear facility operations. The Atomic Energy Act of 1954, as amended, is the principal authority for DOE regulatory activities not externally regulated by other Federal or state agencies. Regulation of DOE activities is primarily established through the use of DOE orders and regulations.

External environmental laws, regulations, and Executive orders can be categorized as applicable to either broad environmental planning and consultation requirements or regulatory environmental protection and compliance activities, although some requirements are applicable to both planning and operations compliance.

Section 5.3 of this chapter discusses the major applicable Federal laws and regulations that impose nuclear safety and environmental protection requirements on the subject facilities and might require the facilities to obtain a permit or license (or amendment thereof) prior to initiation of the relocation project. Each of the applicable regulations and statutes establishes how activities are to be conducted or how potential releases of pollutants are to be controlled or monitored. They include requirements for the issuance of permits or licenses for new operations or new emission sources and for amendments to existing permits or licenses to allow new types of operations at existing sources.

Section 5.4 discusses applicable Executive orders. Section 5.5 identifies applicable DOE directives and regulations for compliance with the Atomic Energy Act; the Occupational Safety and Health Act; and other environmental, safety, and health requirements. Section 5.6 identifies state and local laws, regulations, and ordinances, as well as local agreements potentially affecting the consolidation and relocation of CMR operations. Section 5.7 discusses consultations with applicable agencies and federally recognized Native American tribes.

5.3 Applicable Federal Laws and Regulations

This section describes the Federal environmental, safety, and health laws and regulations that could apply to the various alternatives analyzed in this *CMRR-NF SEIS*. These regulations address such areas as energy conservation, administrative requirements and procedures, nuclear safety, and classified information. They are identified in **Table 5–1**. For ease of identification, a citation column is included in the table, where laws are identified using a *United States Code* (U.S.C.) or Public Law citation, regulations are identified with a CFR citation, and Executive orders are listed by number. This table does not include DOE directives, which are provided in Section 5.5, or state requirements, which are provided in Section 5.6.

Table 5–1 Potentially Applicable Environmental, Safety, and Health Laws, Regulations, and Executive Orders

Laws, Regulations, Orders, Other Requirements	***Citation***
Radioactive Materials and Waste Management	
Atomic Energy Act of 1954, as amended	42 U.S.C. 2011 et seq.
Bob Stump National Defense Authorization Act for Fiscal Year 2003	Public Law 107-314
"Byproduct Material"	10 CFR Part 962
"Environmental Radiation Protection Standards for Management of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Materials"	40 CFR Part 191
Low-Level Radioactive Waste Policy Act of 1980, as amended	42 U.S.C. 2021 et seq.
Price-Anderson Act	42 U.S.C. 2210
Waste Isolation Pilot Plant Land Withdrawal Act, as amended	Public Law 102-579, as amended by Public Law 104-201
"Schedule C–Quantities of Radioactive Materials Requiring Consideration of the Need for an Emergency Plan for Responding to a Release"	10 CFR 30.72, Schedule C
Ecological Resources	
Bald and Golden Eagle Protection Act of 1973, as amended	16 U.S.C. 668 et seq.
Endangered Species Act of 1973, as amended	16 U.S.C. 1531 et seq.
Farmland Protection Policy Act of 1981	7 U.S.C 4201 et seq.
Fish and Wildlife Coordination Act	16 U.S.C. 661 et seq.
Invasive Species	Executive Order 13112
Migratory Bird Treaty Act of 1918, as amended	16 U.S.C. 703 et seq.
Protection of Wetlands	Executive Order 11990
Responsibilities of Federal Agencies to Protect Migratory Birds	Executive Order 13186
Cultural and Paleontological Resources	
American Indian Religious Freedom Act of 1978	42 U.S.C. 1996
Antiquities Act of 1906, as amended	16 U.S.C. 431 et seq.
Archaeological and Historic Preservation Act of 1960, as amended	16 U.S.C. 469 et seq.
Archaeological Resources Protection Act of 1979, as amended	16 U.S.C. 470aa et seq.
Consultation and Coordination with Indian Tribal Governments	Executive Order 13175
Indian Sacred Sites	Executive Order 13007
Manhattan Project National Historical Park Study Act	Public Law 108-340
National Historic Preservation Act of 1966, as amended	16 U.S.C. 470 et seq.
Protection and Enhancement of the Cultural Environment	Executive Order 11593

Laws, Regulations, Orders, Other Requirements	***Citation***
Native American Graves Protection and Repatriation Act of 1990	25 U.S.C. 3001 et seq.
Preserve America	Executive Order 13287
"Protection of Historic and Cultural Properties"	36 CFR Part 800
Trails for America in the 21st Century	Executive Order 13195
Worker Safety and Health	
"Chronic Beryllium Disease Prevention Program"	10 CFR Part 850
"Occupational Radiation Protection"	10 CFR Part 835
Occupational Safety and Health Act of 1970	29 U.S.C. 651 et seq.
"Occupational Safety and Health Standards"	29 CFR Part 1910
Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction	Executive Order 12699
"Worker Safety and Health Program"	10 CFR Part 851
Radiological Safety Oversight and Radiation Protection	
"Procedural Rules for DOE Nuclear Activities"	10 CFR Part 820
"Nuclear Safety Management"	10 CFR Part 830
Transportation	
Hazardous Materials Transportation Act of 1975, as amended	49 U.S.C. 5101 et seq.
"Packaging and Transportation of Radioactive Material"	10 CFR Part 71
"Hazardous Materials Tables and Communications Emergency Response Information Requirements"	49 CFR Part 172
Emergency Planning, Pollution Prevention, and Conservation	
Assignment of Emergency Preparedness Responsibilities	Executive Order 12656
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also known as Superfund)	42 U.S.C. 9601 et seq.
Emergency Management and Assistance	44 CFR 1.1
Emergency Planning and Community Right-to-Know Act	42 U.S.C. 11001 et seq.
Federal Emergency Management	Executive Order 12148
Federal Compliance with Pollution Control Standards	Executive Order 12088
Federal Leadership in Environmental, Energy and Economic Performance	Executive Order 13514
Homeland Security Act of 2002	6 U.S.C. 101 et seq.
Justice Assistance Act of 1984	42 U.S.C. 3701–3799
National Defense Industrial Resources Preparedness	Executive Order 12919
Pollution Prevention Act of 1990	42 U.S.C. 13101 et seq.
Proliferation of Weapons of Mass Destruction	Executive Order 12938
Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, as amended	42 U.S.C. 5121
Strengthening Federal Environmental, Energy, and Transportation Management	Executive Order 13423
Superfund Implementation	Executive Order 12580
Environmental Justice and Protection of Children	
Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	Executive Order 12898
Protection of Children from Environmental Health Risks and Safety Risks	Executive Order 13045
Environmental Quality	
Council on Environmental Quality National Environmental Policy Act Regulations	40 CFR Parts 1500–1508
"Energy Code for New Federal, Commercial, and Multi-Family High Rise Residential Buildings," "Energy Efficiency Standards for New Federal Low-Rise Residential Buildings"	10 CFR Part 434, 10 CFR Part 435
Energy Independence and Security Act of 2007	Public Law 110-140

Laws, Regulations, Orders, Other Requirements	***Citation***
"Federal Energy Management and Planning Programs"	10 CFR Part 436
Federal Insecticide, Fungicide, and Rodenticide Act	7 U.S.C. 136 et seq.
National Environmental Policy Act of 1969	42 U.S.C. 4321 et seq.
"National Environmental Policy Act Implementing Procedures"	10 CFR Part 1021
Protection and Enhancement of Environmental Quality	Executive Order 11514
Relating to Protection and Enhancement of Environmental Quality	Executive Order 11991
Air Quality and Noise	
Clean Air Act of 1970, as amended	42 U.S.C. 7401 et seq.
"National Emission Standards for Hazardous Air Pollutants"	40 CFR Part 61
"National Emission Standards for Hazardous Air Pollutants for Source Categories"	40 CFR Part 63
Noise Control Act of 1972, as amended	42 U.S.C. 4901 et seq.
"Standards of Performance for New Stationary Sources"	40 CFR Part 60
Water Resources	
Clean Water Act of 1972, as amended	33 U.S.C. 1251 et seq.
"Compliance with Floodplain and Wetland Environmental Review Requirements"	10 CFR Part 1022
"EPA-Administered Permit Programs: The National Pollutant Discharge Elimination System"	40 CFR Part 122
Floodplain Management	Executive Order 11988
"National Primary Drinking Water Regulations"	40 CFR Parts 141–149
Safe Drinking Water Act of 1974, as amended	42 U.S.C. 300(f) et seq.
Hazardous Waste and Materials Management	
"EPA Administered Permit Programs: The Hazardous Waste Permit Program"	40 CFR Part 270
Federal Facility Compliance Act of 1992	Public Law 102-386
"Hazardous Waste Management System"	40 CFR Part 260
"Land Disposal Restrictions"	40 CFR Part 268
"Standards for Universal Waste Management"	42 CFR Part 273
Resource Conservation and Recovery Act of 1976, as amended	42 U.S.C. 6901 et seq.
Toxic Substances Control Act of 1976	15 U.S.C. 2601 et seq.

CFR = *Code of Federal Regulations*, U.S.C. = *United States Code*.

American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996)—This act reaffirms American Indian religious freedom under the First Amendment and sets U.S. policy to protect and preserve the inherent and constitutional right of American Indians to believe, express, and exercise their traditional religions. This act further requires Federal actions to avoid interfering with access to sacred locations and traditional resources that are integral to the practice of religions.

Antiquities Act of 1906, as amended (16 U.S.C. 431 et seq.)—This act protects historic and prehistoric ruins, monuments, and antiquities, including paleontological resources, on federally controlled lands from appropriation, excavation, injury, and destruction without permission from the appropriate Federal department.

Archaeological and Historic Preservation Act of 1960, as amended (16 U.S.C. 469 et seq.)—The purpose of this act is to preserve historical and archaeological data (including relics and specimens) that might otherwise be irreparably lost or destroyed as a result of Federal actions.

Archaeological Resources Protection Act of 1979, as amended (16 U.S.C. 470aa et seq.)—This act requires a permit for any excavation or removal of archaeological resources from Federal or American Indian lands. Excavation must be undertaken to further archaeological knowledge in the public interest, and resources removed are to remain the property of the United States. This law also requires that, whenever any Federal agency finds that its activities may cause irreparable loss or destruction of significant scientific, prehistoric, or archaeological data, that agency must notify the U.S. Department of the Interior and may request the Department of the Interior to undertake the recovery, protection, and preservation of such data. Consent must be obtained from the American Indian tribe or Federal agency that has authority over the land on which a resource is located before issuance of a permit, and the permit must contain the terms and conditions requested by the tribe or Federal agency.

Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.), as amended by the Price-Anderson Act (42 U.S.C. 2210) and the Bob Stump National Defense Authorization Act (Public Law 107-314)— This act provides fundamental jurisdictional authority to DOE and the U.S. Nuclear Regulatory Commission (NRC) over governmental and commercial use of nuclear materials. The Atomic Energy Act authorizes DOE to establish standards to protect health or minimize dangers to life or property for activities under DOE jurisdiction. DOE has issued a series of orders that establish an extensive system of standards and requirements to ensure safe operation of DOE facilities (see Section 5.5).

DOE regulations are found in Title 10 of the CFR. The DOE regulations that are most relevant to radioactive materials and waste management and worker health and safety include the following:

- “Nuclear Safety Management” (10 CFR Part 830)
- “Occupational Radiation Protection” (10 CFR Part 835)
- “Chronic Beryllium Disease Prevention Program” (10 CFR Part 850)
- “Worker Safety and Health Program” (10 CFR Part 851)
- “Byproduct Material” (10 CFR Part 962)

The Atomic Energy Act also gives EPA the authority to develop generally applicable standards for protection of the general environment from radioactive materials. EPA has promulgated several regulations under this authority. The EPA regulation that is relevant to the radioactive materials and waste management activities addressed in this *CMRR-NF SEIS* is the “Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes” (40 CFR Part 191). This regulation establishes radiation standards for the management and storage of spent nuclear fuel, high-level radioactive waste, and transuranic waste at facilities regulated by NRC or Agreement States, as well as radiation standards for management and storage of spent nuclear fuel, high-level radioactive waste, and transuranic waste at disposal facilities operated by DOE that are not regulated by NRC or Agreement States. The regulation also establishes limitations on radiation doses that might occur after closure of the disposal system. These standards include both individual protection requirements and groundwater protection standards.

The Price-Anderson Act, which was signed into law in 1957 as an amendment to the Atomic Energy Act of 1954, provides for payment of public liability claims in the event of a nuclear incident. The following are key features of this act:

- Assures the availability of billions of dollars to compensate members of the public who suffer a loss as the result of a nuclear incident
- Establishes a simplified claims process for the public to expedite recovery for losses

- Provides for immediate emergency reimbursement of costs associated with any evacuation that may be ordered
- Establishes liability limits for each nuclear incident involving commercial nuclear energy and government use of nuclear materials
- Guarantees that the Federal Government will review the need for compensation beyond that provided

The Bob Stump National Defense Authorization Act, enacted by the Congress in 2002, amended the Atomic Energy Act to add Section 234C, requiring DOE to promulgate worker health and safety regulations to cover contractors with Price-Anderson indemnification agreements in their contracts. DOE promulgated regulations under this act in February 2006 (71 *Federal Register* [FR] 6857) as 10 CFR Part 851, "Worker Safety and Health Program." The regulations codified and enhanced the DOE worker protection program.

Bald and Golden Eagle Protection Act of 1973, as amended (16 U.S.C. 668 et seq.)—This act makes it unlawful to take, pursue, molest, or disturb bald (American) and golden eagles, their nests, or their eggs anywhere in the United States. A permit must be obtained from the U.S. Department of the Interior to relocate a nest that interferes with resource development or recovery operations.

Clean Air Act of 1970, as amended (42 U.S.C. 7401 et seq.)—This act is intended to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." Section 118 of the Clean Air Act (42 U.S.C. 7418) requires that each Federal agency with jurisdiction over any property or facility engaged in any activity that might result in the discharge of air pollutants comply with "all Federal, state, interstate, and local requirements" regarding the control and abatement of air pollution.

Section 109 of the Clean Air Act (42 U.S.C. 7409 et seq.) directs EPA to set National Ambient Air Quality Standards for criteria pollutants. EPA has identified and set National Ambient Air Quality Standards under 40 CFR Part 50 for the following criteria pollutants: particulate matter, sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and lead. Section 111 of the Clean Air Act (42 U.S.C. 7411) requires establishment of national standards of performance for new or modified stationary sources of atmospheric pollutants. Section 160 of the Clean Air Act (42 U.S.C. 7470 et seq.) requires that specific emission increases be evaluated prior to permit approval to prevent significant deterioration of air quality. Section 112 of the Clean Air Act (42 U.S.C. 7412) requires specific standards for releases of hazardous air pollutants (including radionuclides).

Emissions of air pollutants are regulated by EPA under 40 CFR Parts 50 through 99. Emissions of radionuclides and hazardous air pollutants from DOE facilities are regulated under the National Emission Standards for Hazardous Air Pollutants Program (40 CFR Parts 60, 61, and 63).

Clean Water Act of 1972, as amended (33 U.S.C. 1251 et seq.)—The Clean Water Act, which amended the Federal Water Pollution Control Act, was enacted to "restore and maintain the chemical, physical, and biological integrity of the Nation's water." The Clean Water Act prohibits the "discharge of toxic pollutants in toxic amounts" to navigable waters of the United States. Section 313 of the Clean Water Act requires all branches of the Federal Government engaged in any activity that might result in a discharge of runoff of pollutants to surface waters to comply with Federal, state, interstate, and local requirements. Section 404 of the Clean Water Act gives the U.S. Army Corps of Engineers permitting authority over activities that discharge dredge or fill materials into waters of the United States, including wetlands.

The Clean Water Act also provides guidelines and limitations for effluent discharges from point source discharges and establishes the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES program is administered by EPA, pursuant to regulations in 40 CFR Part 122, and authority may be delegated to states. Sections 401 through 405 of the Water Quality Act of 1987 added Section 402(p) to the Clean Water Act, which requires EPA to establish regulations for permits for stormwater discharges associated with industrial activities, including construction activities disturbing 5 or more acres (2 hectares) (64 FR 68721). After March 2003, the threshold for obtaining a permit was lowered to 1 acre (0.4 hectares). Stormwater provisions of the NPDES program are set forth in 40 CFR 122.26. Permit modifications are required if discharge effluent is altered.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (42 U.S.C. 9601 et seq.) (also known as Superfund)—CERCLA provides (1) a program for emergency response to and reporting of a release or threat of a release of a hazardous substance to the environment and (2) a statutory framework for remediation of hazardous substance releases from Federal, state, and private sites. Using the Hazard Ranking System, contaminated sites are ranked and may be included on the National Priorities List. Section 120 of CERCLA specifies requirements for investigations, remediation, and natural resource restoration, as necessary, at Federal facilities, and also provides reporting requirements for hazardous substance contamination on properties to be transferred. LANL is not on the National Priorities List. Potential release sites at LANL are investigated and remediated under state authorities.

Emergency Management and Assistance (44 CFR 1.1)—This regulation contains the policies and procedures for the Federal Emergency Management Act, National Flood Insurance Program, Federal Crime Insurance Program, Fire Prevention and Control Program, Disaster Assistance Program, and Preparedness Program, including radiological planning and preparedness.

Emergency Planning and Community Right-to-Know Act (42 U.S.C. 11001 et seq.)—This amendment to CERCLA requires that facilities provide notice to and coordinate emergency planning with communities and government agencies concerning inventories and any unplanned releases of specific hazardous chemicals. EPA implements this act under regulations found in 40 CFR Parts 355, 370, and 372. Under Subtitle A of this act, Federal facilities are required to provide information to and coordinate with local and state emergency response planning authorities to ensure that emergency plans are sufficient to respond to unplanned releases of hazardous substances. Voluntary implementation of the provisions of this act at LANL began in 1987, and chemical inventories and emissions have been reported annually since 1988.

Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)—This act is intended to prevent the further decline of endangered and threatened species and to restore these species and their habitats. Section 7 of this act requires Federal agencies that have reason to believe that a prospective action may affect an endangered or threatened species or its habitat to consult with the U.S. Fish and Wildlife Service (USFWS) of the U.S. Department of the Interior or the National Marine Fisheries Service of the U.S. Department of Commerce to ensure the action does not jeopardize the species or destroy its habitat. If, despite reasonable and prudent measures to avoid or minimize such impacts, the species or its habitat would be jeopardized by the action, a review process is specified to determine whether the action may proceed as an incidental taking (50 CFR Part 17).

"Energy Code for New Federal, Commercial, and Multi-Family High Rise Residential Buildings" (10 CFR Part 434) and "Energy Efficiency Standards for New Federal Low-Rise Residential Buildings" (10 CFR Part 435)—The provisions of these regulations provide minimum standards for energy efficiency and energy conservation performance for the design of new Federal, commercial, and multi-family high rise residential buildings and new Federal low-rise residential buildings. The performance standards are designed to achieve the maximum practicable improvements in energy efficiency and conservation and increases in the use of nondepletable sources of energy.

Energy Independence and Security Act of 2007 (Public Law 110-140)—This act establishes energy management goals and requirements and amends portions of the National Energy Conservation Policy Act. This act sets Federal energy management requirements in several areas, including the following: energy reduction goals for Federal buildings; facility management/benchmarking; performance and standards for new building, major renovations, and high-performance buildings; energy savings performance contracts; metering; energy-efficient product procurement; Office of Management and Budget reporting; and reductions in petroleum use/increases in alternative fuel use.

Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.)—This act requires Federal agencies to consider prime or unique farmlands when planning major projects and programs on Federal lands. Federal agencies are required to use prime and unique farmland criteria developed by the U.S. Department of Agriculture's Soil Conservation Service. Under the Farmland Protection Policy Act, the Soil Conservation Service is authorized to maintain an inventory of prime and unique farmlands in the United States to identify the location and extent of rural lands important in the production of food, fiber, forage, and oilseed crops (7 CFR Part 657).

"Federal Energy Management and Planning Programs" (10 CFR Part 436)**—**The objectives of Federal energy management and planning programs are (1) to apply energy conservation measures to and improve the design of Federal buildings such that the energy consumption per gross square foot of Federal buildings in use during fiscal year 1995 is at least 10 percent less than the energy consumption per gross square foot in 1985; (2) to promote the methodology and procedures for conducting life-cycle cost analyses of proposed investments in building energy systems, building water systems, and energy and water conservation measures; (3) to promote the use of energy savings performance contracts by Federal agencies for implementation of privately financed investment in building and facility energy conservation measures for existing federally owned buildings; and (4) to promote efficient use of energy in all agency operations through general operations plans.

Federal Facility Compliance Act of 1992 (42 U.S.C. 6961 et seq.)—This act, enacted on October 6, 1992, amends the Resource Conservation and Recovery Act (RCRA), making Federal facilities subject to potential fines and penalties for violations of RCRA, the law that sets requirements for management of hazardous waste. Prior to its passage, mixed waste stored at DOE sites generally did not comply with RCRA mixed waste land disposal restrictions because of a lack of treatment options. This act requires DOE to (1) prepare and submit a national inventory report identifying its mixed waste volume, characteristics, treatment capacity, and available technologies and (2) prepare and submit (to the appropriate state or EPA regulators) Site Treatment Plans for developing or using the needed treatment capacity along with schedules for treating the mixed waste at each DOE site. The LANL approved Site Treatment Plan is enforced by a compliance order issued by the New Mexico Environment Department in October 1995. It is available for public review.

Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.)—This act regulates the use, registration, and disposal of several classes of pesticides to ensure that pesticides are applied in a manner that protects the applicators, workers, and the environment. Implementing regulations include recommended procedures for the disposal and storage of pesticides (40 CFR Part 165) and worker protection standards (40 CFR Part 170).

Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.)—This act promotes effective planning and cooperation between Federal, state, public, and private agencies for the conservation and rehabilitation of the Nation's fish and wildlife and authorizes the U.S. Department of the Interior to provide assistance. This act requires consultation with USFWS on the possible effects of construction, projects, or activities affecting bodies of water in excess of 10 acres (approximately 4 hectares) in surface area on wildlife. This act also requires consultation with the head of the state agency that administers wildlife resources in the affected state.

Hazardous Materials Transportation Act of 1975, as amended (49 U.S.C. 5101 et seq.)—This act requires the U.S. Department of Transportation to prescribe uniform national regulations for transportation of hazardous materials (including radioactive materials). Most state and local regulations regarding such transportation that are not substantively the same as the U.S. Department of Transportation regulations are preempted (49 U.S.C. 5125). This, in effect, allows state and local governments to enforce only the Federal regulations, not to change or expand upon them.

This program is administered by the Research and Special Programs Administration of the U.S. Department of Transportation, which, when covering the same activities, coordinates its regulations with NRC (under the Atomic Energy Act) and EPA (under RCRA). The U.S. Department of Transportation regulations, which may be found in 49 CFR Parts 171 through 178 and 49 CFR Parts 383 through 397, contain requirements for identifying a material as hazardous or radioactive. These regulations interface with the NRC regulations for identifying material, but U.S. Department of Transportation hazardous material regulations govern the hazard communication (such as marking, labeling, vehicle placarding, and emergency response information) and shipping requirements. Requirements for transport by rail, air, and public highway are included. In addition, EPA regulations established in 40 CFR Part 262 apply to offsite transportation of hazardous wastes from LANL.

Public access to many portions of the LANL facility is controlled at all times through the use of gates and guards. Onsite transportation of hazardous materials, wastes, and contaminated equipment that is conducted entirely on DOE property is subject to applicable DOE directives and safety requirements set forth in 10 CFR Part 830, Subpart B. Offsite transportation of hazardous materials, wastes, and contaminated equipment from LANL over public highways is subject to applicable U.S. Department of Transportation and EPA regulations, as well as applicable DOE directives.

The NRC "Packaging and Transportation of Radioactive Material" (10 CFR Part 71) regulations include detailed packaging design requirements and package certification testing requirements. Complete documentation of design and safety analysis and the results of required certification tests are submitted to NRC to certify the package for use. This certification testing involves the following components: heat, physical drop onto an unyielding surface, water submersion, puncture by dropping the package onto a steel bar, and gas tightness.

Justice Assistance Act of 1984 (42 U.S.C. 3701–3799)—This act establishes emergency Federal law enforcement assistance to state and local governments in responding to a "law enforcement emergency," defined as an uncommon situation that requires law enforcement, that is or threatens to become of serious or epidemic proportions, and with respect to which state and local resources are inadequate to protect the lives and property of citizens or to enforce the criminal law. Emergencies that are not of an ongoing or chronic nature (for example, the Mount Saint Helens volcanic eruption) are eligible for Federal law enforcement assistance, including funds, equipment, training, intelligence information, and personnel.

Low-Level Radioactive Waste Policy Act of 1980, as amended (42 U.S.C. 2021 et seq.)—This act amends the Atomic Energy Act to specify that the Federal Government is responsible for disposal of low-level radioactive waste generated by certain activities and that each state is responsible for disposal of other low-level radioactive waste generated within its borders. It provides for and encourages interstate compacts to carry out state responsibilities. As a result of this act, low-level radioactive waste owned or generated by DOE remains the responsibility of the Federal Government.

Manhattan Project National Historical Park Study Act (Public Law 108-340)—This act directs the Secretary of the Interior to conduct a study on the preservation and interpretation of the historic sites of the Manhattan Project for potential inclusion in the National Park System (October 18, 1998).

Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703 et seq.)—This act is intended to protect birds that follow common migration patterns across the United States, Canada, Mexico, Japan, and Russia. It regulates the harvest of migratory birds by specifying conditions such as mode of harvest, hunting seasons, and bag limits. This act stipulates that it is unlawful, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, …any migratory bird…or any part, nest, or egg of any such bird." Although no permit for the proposed Chemistry and Metallurgy Research Building Replacement (CMRR) Project is required under this act, DOE is required to consult with USFWS regarding impacts on migratory birds and to avoid or minimize these effects in accordance with the U.S. Fish and Wildlife Service Mitigation Policy. A split of authority currently exists between Federal courts regarding whether this act applies to Federal agencies.

National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.)—The purposes of NEPA are to (1) declare a national policy that will encourage productive and enjoyable harmony between people and their environment, (2) promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of people, (3) enrich the understanding of the ecological systems and natural resources important to the Nation, and (4) establish a Council on Environmental Quality (CEQ). NEPA establishes a national policy requiring that Federal agencies consider the environmental impacts of major Federal actions significantly affecting the quality of the human environment before making decisions and taking actions to implement those decisions. Implementation of NEPA requirements in accordance with CEQ regulations (40 CFR Parts 1500–1508) can result in a categorical exclusion, an environmental assessment and Finding of No Significant Impact, or an EIS and Record of Decision. This *CMRR-NF SEIS* was prepared in accordance with NEPA requirements, CEQ regulations for implementing the procedural requirements of NEPA (40 CFR Parts 1500–1508), and "National Environmental Policy Act Implementing Procedures" (10 CFR Part 1021; DOE Order 451.1B, Change 1). It discusses reasonable alternatives and their potential environmental consequences.

National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 et seq.)—This act requires that sites with significant national historic value be placed on the National Register of Historic Places, which is maintained by the Secretary of the Interior. The major provisions of this act for DOE consideration are Sections 106 and 110. Both sections aim to ensure that historic properties are appropriately considered in planning Federal initiatives and actions. Section 106 is a specific, issue-related mandate to which Federal agencies must adhere. It is a reactive mechanism driven by a Federal action. Section 110, in contrast, sets out broad Federal agency responsibilities with respect to historic properties. It is a proactive mechanism that emphasizes ongoing management of historic preservation sites and activities at Federal facilities. No permits or certifications are required under this act.

Section 106 requires the head of any Federal agency with direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking to ensure compliance with the provisions of the act. It compels Federal agencies to "take into account" the effect of their projects on historical and archaeological resources and to give the Advisory Council on Historic Preservation the opportunity to comment on such effects. Section 106 mandates consultation during Federal actions if the undertaking has the potential to affect a historic property. This consultation normally involves State or Tribal Historic Preservation Officers, or both, and may include other organizations and individuals, such as local governments and American Indian tribes. If an adverse effect is found, the consultation often ends with the execution of a Memorandum of Agreement that states how the adverse effect will be resolved.

The regulations implementing Section 106, found in 36 CFR Part 800, were revised on December 12, 2000, to modify the process by which Federal agencies consider the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation with a reasonable opportunity to comment on such undertakings, as required by Section 106 of this act. In promulgating the new regulations, CEQ sought to better balance the interests and concerns of various users of the Section 106 process, including Federal agencies, State Historic Preservation Officers, Tribal Historic Preservation Officers, American Indians and Native Hawaiians, industry, and the public.

Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 et seq.)—This act establishes a means for American Indians to request the return or repatriation of human remains and other cultural items presently held by Federal agencies or federally assisted museums or institutions. This act also contains provisions regarding the intentional excavation and removal of, inadvertent discovery of, and illegal trafficking in American Indian human remains and cultural items. Major actions under this law include the following: (1) establishing a review committee with monitoring and policymaking responsibilities; (2) developing regulations for repatriation, including procedures for identifying lineal descent or cultural affiliation needed for claims; (3) providing oversight of museum programs designed to meet the inventory requirements and deadlines of this law; and (4) developing procedures to handle unexpected discoveries of graves or grave goods during activities on Federal or tribal lands. All Federal agencies that manage land or are responsible for archaeological collections obtained from their lands or generated by their activities must comply with this act. DOE managers of ground-disturbing activities on Federal and tribal lands are to be aware of the statutory provisions treating inadvertent discoveries of American Indian remains and cultural objects. Regulations implementing this act are found in 43 CFR Part 10.

Noise Control Act of 1972, as amended (42 U.S.C. 4901 et seq.)—Section 4 of the Noise Control Act of 1972, as amended, directs all Federal agencies to carry out "to the fullest extent within their authority" programs within their jurisdictions that further the national policy of promoting an environment free from noise that jeopardizes health and welfare. Federal, state, and local agencies enforce the standards and requirements of this act to regulate noise at facilities such as LANL. DOE must comply with this act for any of the activities being considered in this *CMRR-NF SEIS*.

Occupational Safety and Health Act of 1970 (29 U.S.C. 651 et seq.)—Section 4(b)(1) of the Occupational Safety and Health Act exempts DOE and its contractors from the occupational safety requirements of the Occupational Safety and Health Administration. However, 29 U.S.C. 668 requires Federal agencies to establish their own occupational safety and health programs for their places of employment, consistent with Occupational Safety and Health Administration standards. DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees,* states that DOE will implement a written worker protection program that (1) provides a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm to their employees, and (2) integrates all requirements contained in paragraphs 4a to 4l of DOE Order 440.1A;

29 CFR Part 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters;" and other related site-specific worker protection activities.

"Occupational Safety and Health Standards" (29 CFR Part 1910)—This regulation establishes Occupational Safety and Health Administration requirements for employee safety in a variety of working environments. It addresses employee emergency and fire prevention plans (Section 1910.38), hazardous waste operations and emergency response (Section 1920.120), and hazards communication (Section 1910.1200) to make employees aware of the dangers they face from hazardous materials in their workplace. These regulations do not directly apply to Federal agencies. However, Section 19 of the Occupational Safety and Health Act (29 U.S.C. 668) requires all Federal agencies to have occupational safety programs "consistent" with Occupational Safety and Health Act standards.

Pollution Prevention Act of 1990 (42 U.S.C. 13101 et seq.)—This act establishes a national policy for waste management and pollution control. Source reduction is given first preference, followed by environmentally safe recycling, with disposal or releases to the environment as a last resort. In response to the policies established by the Pollution Prevention Act, DOE committed to participation in the Superfund Amendments and Reauthorization Act, Section 313, EPA 33/50 Pollution Prevention Program. The goal for facilities involved in compliance with Section 313 was to achieve a 33 percent reduction (from a 1993 baseline) in the release of 17 priority chemicals by 1997. On November 12, 1999, then-U.S. Secretary of Energy Bill Richardson established 14 pollution prevention and energy efficiency goals for DOE to build environmental accountability and stewardship into DOE's decisionmaking process. Under these goals, DOE strives to minimize waste and maximize energy efficiency as measured by continuous cost-effective improvements in the use of materials and energy, using the years 2005 and 2010 as interim measurement points.

"Schedule C–Quantities of Radioactive Materials Requiring Consideration of the Need for an Emergency Plan for Responding to a Release" (10 CFR 30.72, Schedule C)—This section of the regulations provides a list that is the basis for both the public and private sector to determine whether the radiological materials they handle must have an emergency response plan for unscheduled releases and is one of the threshold criteria documents for DOE hazards assessments required by DOE Order 151.C, *Comprehensive Emergency Management System*. The *Federal Radiological Emergency Response Plan*, dated May 1, 1996, primarily discusses offsite Federal response in support of state and local governments with jurisdiction during a peacetime radiological emergency.

Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, as amended (42 U.S.C. 5121)—This act provides an orderly, continuing means of providing Federal Government assistance to state and local governments in managing their responsibilities to alleviate suffering and damage resulting from disasters. The President, in response to a state governor's request, may declare an "emergency" or "major disaster" to provide Federal assistance under this act. The President, in Executive Order 12148, as amended, delegated all functions except those in Sections 301, 401, and 409 to the Director of the Federal Emergency Management Agency. The act provides for the appointment of a Federal coordinating officer who will operate in the designated area with a state coordinating officer for the purpose of coordinating state and local disaster assistance efforts with those of the Federal Government.

Safe Drinking Water Act of 1974, as amended (42 U.S.C. 300(f) et seq.)—The primary objective of the Safe Drinking Water Act is to protect the quality of public drinking water supplies and sources. The implementing regulations, administered by EPA unless delegated to the states, establish standards applicable to public water systems. These regulations include maximum contaminant levels (including those for radioactivity) in public water systems, which are defined as water systems with at least 15 service connections that are used by year-round residents or regularly serve at least 25 year-round residents. EPA regulations implementing the Safe Drinking Water Act are found in 40 CFR Parts 141 through 149. For radioactive material, the regulations specify that the average annual concentration of beta particles and photon energy from manmade radionuclides in drinking water, as delivered to the user by such a system, shall not produce a dose equivalent to the total body or an internal organ greater than 4 millirem per year. They further specify a concentration limit for gross alpha particle activity (excluding radon and uranium) of 15 picocuries per liter and for uranium of 0.03 milligrams per liter (40 CFR 141.66). Other programs established by the Safe Drinking Water Act include the Sole Source Aquifer Program, the Wellhead Protection Program, and the Underground Injection Control Program.

Solid Waste Disposal Act of 1965, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments of 1984 (42 U.S.C. 6901 et seq.)—This act, as amended, governs the transportation, treatment, storage, and disposal of hazardous and nonhazardous wastes. Under RCRA, which amended the Solid Waste Disposal Act of 1965, EPA defines and identifies hazardous waste; establishes standards for its transportation, treatment, storage, and disposal; and requires permits for persons engaged in hazardous waste activities. Section 3006 of RCRA (42 U.S.C. 6926) allows states to establish and administer these permit programs with EPA approval.

The EPA regulations implementing RCRA are found in 40 CFR Parts 260 through 283. The New Mexico Environment Department is authorized to administer the RCRA program in New Mexico and issued the RCRA operating permit. Regulations imposed on a generator or on a treatment, storage, or disposal facility vary according to the type and quantity of hazardous waste generated, treated, stored, or disposed of and the methods of treatment, storage, and disposal.

Toxic Substances Control Act of 1976 (15 U.S.C. 2601 et seq.)—This act provides EPA with the authority to require testing of chemical substances entering the environment and to regulate them as necessary. The law complements and expands existing toxic substance laws, such as Section 112 of the Clean Air Act and Section 307 of the Clean Water Act. This act requires compliance with the inventory reporting and chemical control provisions of the legislation to protect the public from risks of exposure to chemicals.

This act also imposes strict limitations on the use and disposal of PCBs, chlorofluorocarbons, asbestos, dioxins, certain metal-working fluids, and hexavalent chromium. EPA issued the disposal authorization documents for management of its PCB waste disposal facility in Technical Area 54.

Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579) and Waste Isolation Pilot Plant Land Withdrawal Act Amendments (Public Law 104-201)—The Waste Isolation Pilot Plant Land Withdrawal Act withdrew land from the public domain for the purpose of creating and operating the Waste Isolation Pilot Plant (WIPP), the geologic repository in New Mexico designated as the national disposal site for defense transuranic waste. The act also defined the characteristics and amount of waste that can be disposed of at the facility. Amendments to the act exempt waste to be disposed of at WIPP from the RCRA land disposal restrictions. Prior to sending any transuranic waste from LANL to WIPP, DOE would have to determine whether the waste meets all statutory and regulatory requirements for disposal at WIPP.

5.4 Applicable Executive Orders

This section identifies environment-, health-, and safety-related Executive orders applicable to LANL operations. Activities under all alternatives would need to be conducted in compliance with applicable Executive orders. Chapter 3 describes the resources at LANL and Chapter 4 discusses the potential impacts on those resources under each alternative. Consultations with applicable agencies and federally recognized Native American nations, as required by these Executive orders, are discussed in Section 5.7.

Executive Order 11514, *Protection and Enhancement of Environmental Quality* (March 5, 1970), as amended by Executive Orders 11541 (July 1, 1970) and 11991 (May 24, 1977)—This Executive order requires Federal agencies to continually monitor and control their activities to (1) protect and enhance the quality of the environment and (2) develop procedures to ensure the fullest practicable provision of timely public information and understanding of Federal plans and programs that may have potential environmental impact so that interested parties can submit their views. DOE has issued regulations (10 CFR Part 1021) and DOE Order 451.1B, *National Environmental Policy Act Compliance Program*, for compliance with this Executive order.

Executive Order 11593, *Protection and Enhancement of the Cultural Environment* (May 13, 1971)— This Executive order directs Federal agencies to locate, inventory, and nominate properties under their jurisdiction or control to the National Register of Historic Places if they qualify. This process requires DOE to provide the Advisory Council on Historic Preservation an opportunity to comment on the possible impacts of proposed activities on any potentially eligible or listed resources.

Executive Order 11990, *Protection of Wetlands* (May 24, 1977)—This Executive order (implemented by DOE in 10 CFR Part 1022) requires Federal agencies to avoid any short- or long-term adverse impacts on wetlands wherever there is a practicable alternative. Each agency must also provide opportunities for early public review of any plans or proposals for new construction in wetlands.

Executive Order 11988, *Floodplain Management* (May 24, 1977)—This Executive order (implemented by DOE in 10 CFR Part 1022) requires Federal agencies to establish procedures to ensure that the potential effects of flood hazards and floodplain management are considered for any action undertaken in a floodplain and that floodplain impacts are avoided to the extent practicable.

Executive Order 12088, *Federal Compliance with Pollution Control Standards* (October 13, 1978), as amended by Executive Order 12580, *Superfund Implementation* (January 23, 1987)—This Executive order directs Federal agencies to comply with applicable administrative and procedural pollution control standards established by, but not limited to, the Clean Air Act, the Noise Control Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act, and RCRA.

Executive Order 12148, *Federal Emergency Management* (July 20, 1979), as amended by Executive Order 12919, *National Defense Industrial Resources Preparedness*, the Homeland Security Act of 2002 (Public Law 107-296), and Title 3 of U.S.C. Section 301—This Executive order transfers functions and responsibilities associated with Federal emergency management to the director of the Federal Emergency Management Agency. This order assigns the director the responsibility to establish Federal policies for, and to coordinate all civil defense and civil emergency planning, management, mitigation, and assistance functions of, Executive branch agencies. The amendment replaces the name "Federal Emergency Management Agency" with "Department of Homeland Security" wherever it appears.

Executive Order 12656, *Assignment of Emergency Preparedness Responsibilities* (November 18, 1988)—This Executive order assigns emergency preparedness responsibilities to Federal departments and agencies.

Executive Order 12699, *Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction* (January 5, 1990)—This Executive order requires Federal agencies to do the following in a cost-effective manner: (1) reduce risks to occupants of buildings owned, leased, or purchased by the Federal Government or constructed with Federal assistance and to persons who would be affected by failures of Federal buildings in earthquakes; (2) improve the capability of existing Federal buildings to function during or after an earthquake; and (3) reduce earthquake losses of public buildings. Each Federal agency responsible for the design and construction of a Federal building shall ensure that the building is designed and constructed in accordance with appropriate seismic design and construction standards.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994)—This Executive order requires each Federal agency to identify and address the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

The CEQ, which oversees the Federal Government's compliance with Executive Order 12898 and NEPA, has developed guidelines to assist Federal agencies in incorporating the goals of Executive Order 12898 into the NEPA process. This guidance, published in 1997, is intended to "…assist Federal agencies with their NEPA procedures so that environmental justice concerns are effectively identified and addressed." As part of this process, DOE conducted an analysis to determine whether implementing any of the proposed alternatives would result in disproportionately high or adverse impacts on minority and low-income populations. The results of this analysis are discussed in the environmental justice sections of Chapter 4 of this *CMRR-NF SEIS* for each of the alternatives under consideration.

Executive Order 12938, *Proliferation of Weapons of Mass Destruction* (November 14, 1994)—This Executive order states that the proliferation of nuclear, biological, and chemical weapons ("weapons of mass destruction") and the means of delivering such weapons constitute an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States and that a national emergency would be declared to deal with that threat.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996)—This Executive order directs Federal agencies to (1) accommodate access to and ceremonial use of American Indian sacred sites by their religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites to the extent practicable and when consistent with essential agency functions. Where appropriate, agencies are to maintain the confidentiality of sacred sites.

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997), as amended by Executive Order 13229 (October 9, 2001)—This Executive order requires each Federal agency to give high priority to identifying and assessing environmental health risks and safety risks that may disproportionately affect children and to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks.

Executive Order 13112, *Invasive Species* (February 3, 1999)—This Executive order requires Federal agencies to prevent the introduction of invasive species; to provide for their control; and to minimize their economic, ecological, and human health impacts.

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000)—This Executive order supplements the Executive Memorandum (dated April 29, 1994) entitled, "Government-to-Government Relations with Tribal Governments," and states that each Executive branch department and agency shall consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect federally recognized tribal governments. This order also states that each Executive branch department and agency shall assess the impact of Federal Government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during the development of such plans, projects, programs, and activities.

Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (January 10, 2001)—This Executive order directs departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act. Specifically, this order directs Federal agencies whose direct activities will likely result in the take of migratory birds to develop and implement a Memorandum of Understanding with USFWS to promote the conservation of bird populations.

Executive Order 13195, *Trails for America in the 21st Century* (January 18, 2001)—This Executive order states that Federal agencies will, to the extent permitted by law and where practicable—and in cooperation with tribes, states, local governments, and interested citizen groups—protect, connect, promote, and assist trails of all types throughout the United States.

Executive Order 13287, *Preserve America* (March 3, 2003)—The goals of the initiative addressed by this Executive order include a greater shared knowledge about the Nation's past, strengthened regional identities and local pride, increased local participation in preserving cultural and natural heritage assets, and support for the economic vitality of our communities. This order establishes Federal policy to provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the Federal Government and by promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties.

Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (January 24, 2007)—This Executive order sets goals for Federal agencies to conduct their environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (October 5, 2009)—The goals of this Executive order are to expand upon the energy reduction and environmental performance requirements of Executive Order 13423. Executive Order 13514 sets numerous Federal energy requirements in several areas, including accountability and transparency, strategic sustainability performance planning, greenhouse gas management, sustainable buildings and communities, water efficiency, electronic products and services, fleet and transportation management, and pollution prevention and waste reduction. Activities under all of the alternatives would need to be conducted to comply with this order.

5.5 Applicable U.S. Department of Energy Directives and Regulations

The Atomic Energy Act authorizes DOE to establish standards to protect health and minimize the dangers to life or property from activities under DOE's jurisdiction. Through a series of DOE orders and regulations, an extensive system of standards and requirements has been established to ensure safe operation of DOE facilities.

DOE regulations are found in Title 10 of the CFR. These regulations address such areas as energy conservation, administrative requirements and procedures, nuclear safety, and classified information. For the purposes of this *CMRR-NF SEIS*, relevant regulations include "Procedural Rules for DOE Nuclear Activities" (10 CFR Part 820), "Nuclear Safety Management" (10 CFR Part 830), "Occupational Radiation Protection" (10 CFR Part 835), "National Environmental Policy Act Implementing Procedures" (10 CFR Part 1021), and "Compliance with Floodplain and Wetland Environmental Review Requirements" (10 CFR Part 1022).

A number of DOE directives have been issued in support of environmental, safety, and health programs. Many of these were revised and reorganized to reduce duplication and eliminate obsolete provisions. The new DOE Directives System is organized by series, with each directive identified by three digits. Directives can include policies, orders, notices, manuals, and guides.

Existing DOE directives (identified by four digits) are expected to be revised and converted to the new DOE numbering system. All current directives are in effect without regard to the expiration date. The major DOE directives pertaining to the alternatives of this *CMRR-NF SEIS* are listed in **Table 5–2**.

Table 5–2 Applicable U.S. Department of Energy Directives

DOE Directive Number	*Title*	*Date*
Leadership/Management Planning		
P 141.1	Department of Energy Management of Cultural Resources	5-2-2001
O 144.1	Department of Energy American Indian Tribal Government Interactions and Policy	1-16-2009 Chg 1: 11-6-2009
O 151.1C	Comprehensive Emergency Management System	11-2-2005
O 153.1	Departmental Radiological Emergency Response Assets	6-27-2007
Information and Analysis		
O 221.1A	Reporting Fraud Waste and Abuse to the Office of Inspector General	4-19-2008
O 221.2A	Cooperation with the Office of Inspector General	2-25-2008
O 221.3A	Establishment of Management Decisions on Office of Inspector General Reports	4-19-2008
P 226.1B	DOE Oversight Policy	4-25-2011
O 226.1B	Implementation of DOE Oversight Policy	4-25-2011
O 231.1B	Environment, Safety and Health Reporting	6-27-2011
M 231.1-2	Occurrence Reporting and Processing of Operations Information	8-19-2003
Work Processes		
O 410.1	Central Technical Authority Responsibilities Regarding Nuclear Safety Requirements	8-28-2007
O 410.2	Management of Nuclear Materials	8-17-2009
O 413.1B	Internal Control Program	10-28-08
O 413.2B	Laboratory Directed Research and Development	4-19-2006
O 413.3B	Program and Project Management for the Acquisition of Capital Assets	11-29-2011
O 414.1D	Quality Assurance	4-25-2011
P 420.1	"Department of Energy Nuclear Safety Policy"	2-8-2011

DOE Directive Number	Title	Date
O 420.1B	Facility Safety	12-22-2005 Chg 1: 4-19-10
O 422.1	Conduct of Operations	6-29-2010
O 425.1D	Verification of Readiness to Start Up or Restart Nuclear Facilities	4-16-2010
P 426.1	Federal Technical Capability Policy for Defense Nuclear Facilities	12-10-1998
O 426.1	Federal Technical Capability	11-19-2009
O 426.2	Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities	4-21-2010
O 430.1B	Real Property Asset Management	9-24-2003 Chg 1: 2-8-2008 Chg 2: 4-25-2011
O 433.1B	Maintenance Management Program for DOE Nuclear Facilities	4-21-2010
P 434.1	Conduct and Approval of Select Agent and Toxin Work at Department of Energy Sites	6-5-2009
O 435.1	Radioactive Waste Management	7-9-1999 Chg 1: 8-28-2001 Certified 1-9-2007
M 435.1-1	Radioactive Waste Management Manual	7-9-1999 Chg 1: 6-19-2001 Certified 1-9-2007 Chg 2: 6-8-2011
O 436.1	Departmental Sustainability	5-2-2011
O 440.1B	Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees	5-17-2007 Chg 1: 8-21-2007
M 440.1-1A	DOE Explosives Safety Manual	1-9-2006
P 441.1	DOE Radiological Health and Safety Policy	4-26-1996
M 441.1-1	Nuclear Material Packaging Manual	3-7-2008
O 450.2	Integrated Safety Management	4-25-2011
P 450.4A	Integrated Management Policy	4-25-2011
O 451.1B	National Environmental Policy Act Compliance Program	10-26-2000 Chg 1: 9-28-2001 Chg 2: 6-25-2010
O 452.1D	Nuclear Explosive and Weapon Surety Program	4-14-2009
O 452.2D	Nuclear Explosive Safety	4-14-2009
M 452.2-1A	Nuclear Explosive Safety Manual	4-14-2009
M 452.2-2	Nuclear Explosive Safety Evaluation Processes	4-14-2009
O 452.3	Management of the Department of Energy Nuclear Weapons Complex	6-8-2005
O 452.4B	Security and Use Control of Nuclear Explosives and Nuclear Weapons	1-22-2010
O 452.6A	Nuclear Weapon Surety Interface with the Department of Defense	4-14-2009
O 452.7	Protection of Use Control Vulnerabilities and Designs	5-14-2010
P 454.1	Use of Institutional Controls	4-9-2003
P 456.1	Secretarial Policy Statement on Nanoscale Safety	9-15-2005 Certified 9-23-2010
O 456.1	The Safe Handling of Unbound Engineered Nanoparticles	6-6-2011
O 457.1	Nuclear Counterterrorism	2-7-2006
M 457.1-1	Control of Improvised Nuclear Device Information	8-10-2006
O 460.1C	Packaging and Transportation Safety	5-14-2010
O 460.2A	Departmental Materials Transportation and Packaging Management	12-22-2004
M 460.2-1A	Radioactive Material Transportation Practices Manual	6-4-2008
O 461.1B	Packaging and Transportation for Offsite Shipment of Materials of National Security Interest	12-20-2010

DOE Directive Number	***Title***	***Date***
O 461.2	Onsite Packaging and Transfer or Transportation of Materials of National Security Interest	4-26-2004 Chg 1: 10-31-2010
O 462.1	Import and Export of Category 1 and 2 Radioactive Sources and Aggregated Quantities	11-10-2008
P 470.1A	Safeguards and Security Program	12-29-2010
O 470.2B	Independent Oversight and Performance Assurance Program	10-31-2002
O 470.3B	Graded Security Protection (GSP) Policy	8-12-2008
O 470.4A	Safeguards and Security Program	5-25-2007
M 470.4-1	Safeguards and Security Program Planning and Management	8-26-2005 Chg 1: 3-7-2006 Chg 2: 10-20-2010
M 470.4-5	Personnel Security	8-26-2005
N 470.5	Implementation of Section 1072 of the National Defense Authorization Act for Fiscal Year 2008	8-12-2009
O 471.1B	Identification and Protection of Unclassified Controlled Nuclear Information	3-1-2010
O 471.3	Identifying and Protecting Official Use Only Information	4-9-2003 Chg. 1: 1-12-2011
M 471.3-1	Manual for Identifying and Protecting Official Use Only Information	4-9-2003 Chg. 1: 1-13-2011
O 471.6	Information Security	6-20-2011
O 473.3	Protection Program Operation	6-29-2011
O 474.2	Nuclear Material Control and Accountability	6-27-2011
O 475.2A	Identifying Classified Information	2-1-2011
Environmental Quality and Impact		
O 458.1	Radiation Protection of the Public and the Environment	2-11-2011
O 5480.30	Nuclear Reactor Safety Design Criteria	1-19-2003 Chg 1: 3-14-2001

M = Manual, N = Notice, O = Order, P = Policy.

5.6 Applicable State and Local Laws, Regulations, and Agreements

Certain environmental requirements, including some discussed in Section 5.3, have been delegated to state authorities for implementation and enforcement. It is DOE policy to conduct its operations in an environmentally safe manner that complies with all applicable laws, regulations, and standards, including state laws and regulations. A list of applicable state and local laws, regulations, and agreements is provided in **Table 5–3**.

Table 5–3 Applicable State and Local Regulations, and Agreements

Laws, Regulations, Agreements	***Citation***	***Requirements***
Endangered Plant Species	*New Mexico Administrative Code* (NMAC) Title 19, Chapter 21, "Endangered Plants" (revised November 30, 2006).	Establishes plant species list and rules for collection.
Environmental Oversight and Monitoring Agreement	Agreement in Principle Between DOE and the State of New Mexico, November 2000.	Provides DOE support for state activities in environmental oversight, monitoring, access, and emergency response.
Federal Facility Compliance Order	October 1995 (issued to both DOE and LANL).	Order used by the New Mexico Environment Department to enforce the Federal Facility Compliance Act. It requires compliance with the approved LANL Site Treatment Plan, which documents the development and use of treatment capacities and technologies, as well as use of offsite facilities for treating mixed radioactive waste stored at LANL.
Los Alamos County Noise Restrictions	*Los Alamos County Code*, Chapter 8.28.	Imposes noise restrictions and makes provisions for exceedances.
Environmental Improvement Act	*New Mexico Statutes Annotated* (NMSA) 1978, Sections 74-1-1 through 74-1-15; NMAC Sections 20.5.1 through 20.5.17, August 15, 2003. The New Mexico Environment Department recently changed its regulations for storage tanks, combining the regulations for aboveground and underground storage tanks into the Petroleum Storage Tank regulations. Petroleum Storage Tank regulations are found in NMAC Sections 20.5.1 through 20.5.17; filed for publication in the *New Mexico Register* on July 16, 2003; effective August 15, 2003.	Aboveground tank regulations were modified to include requirements for the registration, installation, modification, repair, and closure or removal of aboveground storage tanks, as well as release detection, record-keeping, and financial responsibility in the state of New Mexico.
New Mexico Air Quality Control Act	NMSA Chapter 74, "Environmental Improvement," Article 2, "Air Pollution" (revised October 31, 2002), and implementing regulations at NMAC Title 20, "Environmental Protection," Chapter 2, "Air Quality" (revised October 31, 2002).	Establishes air quality standards and requires a permit prior to construction or modification of an air contaminant source. Also requires an operating permit for major producers of air pollutants and imposes emission standards for hazardous air pollutants.
New Mexico Cultural Properties Act	NMSA Chapter 18, "Libraries and Museums," Article 6, "Cultural Properties."	Establishes the State Historic Preservation Office and requirements to prepare an archaeological and historic survey and consult with the State Historic Preservation Office.
New Mexico Groundwater Protection Act	NMSA Chapter 74, Article 6B, "Groundwater Protection."	Establishes state standards for protection of groundwater from leaking underground storage tanks.
New Mexico Hazardous Chemicals Information Act	NMSA Chapter 74, Article 4E-1, "Hazardous Chemicals Information."	Implements the hazardous chemical information and toxic release reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986 (SARA Title III) for covered facilities.

Laws, Regulations, Agreements	***Citation***	***Requirements***
New Mexico Hazardous Waste Act	NMSA Chapter 74, Article 4, "Hazardous Waste," and implementing regulations found in NMAC Title 20, "Environmental Protection," Chapter 4, "Hazardous Waste" (revised June 14, 2000).	Establishes permit requirements for construction, operation, modification, and closure of a hazardous waste management facility and establishes state standards for cleanup of releases from leaking underground storage tanks.
New Mexico Endangered Plant Species Act	NMSA Chapter 75, "Miscellaneous Natural Resource Matters," Article 6, "Endangered Plants."	Requires coordination with the State of New Mexico.
New Mexico Night Sky Protection Act	NMSA Chapter 74, Article 12, "Night Sky Protection": 74-12-1 to 74-12-10 (House Bill 39/A, March 1, 1999).	Regulates outdoor night lighting fixtures to preserve and enhance the State of New Mexico's dark sky while promoting safety, conserving energy, and preserving the environment for astronomy.
New Mexico Radiation Protection Act	NMSA Chapter 74, Article 3, "Radiation Control" and implementing regulations found in NMAC Title 20, Chapter 3, "Radiation Protection" (revised April 15, 2004) "Environmental Protection."	Establishes state requirements for worker protection.
New Mexico Raptor Protection Act	NMSA Chapter 17, Article 2-14.	Makes it unlawful to take, attempt to take, possess, trap, ensnare, injure, maim, or destroy any of the species of hawks, owls, and vultures.
New Mexico Solid Waste Act	NMSA Chapter 74, Article 9, Solid Waste Act, and implementing regulations found in NMAC Title 20, "Environmental Protection," Chapter 9, "Solid Waste" (revised November 27, 2001).	Requires permit prior to construction or modification of a solid waste disposal facility.
New Mexico Water Quality Act	NMSA Chapter 74, Article 6, "Water Quality," and implementing regulations found in NMAC Title 20, "Environmental Protection," Chapter 6, "Water Quality" (revised February 16, 2006).	Establishes water quality standards and requires a permit prior to the construction or modification of a water discharge source.
New Mexico Wildlife Conservation Act	NMSA Chapter 17, "Game and Fish," Article 2, "Hunting and Fishing Regulations," Part 3, Wildlife Conservation Act.	Requires a permit and coordination if a project may disturb habitat or otherwise affect threatened or endangered species.
Compliance Order on Consent	March 1, 2005 (entered into by the State of New Mexico, DOE, and the University of California) (NMED 2005).	Requires site investigations of known or potentially contaminated sites at LANL and cleanup in accordance with a specified process and schedule.
Pueblo Accords	DOE 2006 Restatement of Accords with the Pueblos of Cochiti, Jemez, Santa Clara, and San Ildefonso.	Set forth the specifications for maintaining a government-to-government relationship between DOE and each of the four pueblos closest to LANL.
Threatened and Endangered Species of New Mexico	NMAC Title 19, "Natural Resources and Wildlife," Chapter 33, "Threatened and Endangered Species," Section 19.33.6.8 (revised December 29, 2006).	Establishes the list of threatened and endangered species.

LANL = Los Alamos National Laboratory.

5.7 Consultations

5.7.1 Consultations Requirements

Certain laws and Executive orders require consultation and coordination by DOE with other governmental entities, including other Federal agencies, state and local agencies, and federally recognized Native American nations. These consultations must occur on a timely basis and are generally required before any land disturbance can begin. Most of these consultations are related to biotic resources, cultural resources, and Native American rights.

The biotic resource consultations generally pertain to the potential for activities to disturb sensitive species or habitats. Cultural resource consultations relate to the potential for disruption of important cultural resources and archaeological sites. Native American consultations concern the sovereign rights of tribal nations regarding the potential for disturbance of ancestral sites and the traditional practices.

5.7.1.1 Ecological Resources

With respect to biotic resources, the National Nuclear Security Administration (NNSA) has determined that the proposed action would be similar to those described as acceptable in the Los Alamos National Laboratory *Threatened and Endangered Species Habitat Management Plan* (LANL 2011c); however, consultation by NNSA is necessary to comply with the provisions of 50 CFR Part 402 (Section 7), "Interagency Cooperation – Endangered Species Act of 1973, as amended." NNSA initiated consultation with USFWS, as the Federal agency with regulatory responsibility for the Endangered Species Act, in April 2003 regarding the CMRR Facility (that is, the CMRR Nuclear Facility and the Radiological Laboratory/Utility/Office Building). Subsequent consultations occurred in February 2005, January 2006, August 2007, June 2009, and May 2011.

Consultations resulted in concurrence by USFWS with NNSA's determination that construction and operation of the CMRR Facility in Technical Area 55, including use of other areas for construction support activities, may affect, but are not likely to adversely affect, either individuals of threatened or endangered species currently listed by USFWS or their critical habitat at LANL (see USFWS responses in Section 5.7.2).

5.7.1.2 Cultural Resources

Although the CMRR Nuclear Facility site in Technical Area 55 has already been excavated for the purpose of geologic characterization (no cultural resources were found) and other associated sites required for the project were selected because cultural resource sites either were not present or could easily be avoided, the LANL staff would further evaluate whether any of the subject activities would affect eligible or potentially eligible cultural resources prior to any ground-disturbing activities. *A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico (Cultural Resources Management Plan)* (LANL 2006a), is a comprehensive institutional plan that defines the responsibilities, requirements, and methods for managing cultural resources at LANL. It provides an overview of the cultural resources program and establishes procedures for effective compliance with the National Historic Preservation Act, as well as with other historic preservation laws specific to the cultural heritage of LANL. The *Cultural Resources Management Plan* makes the public aware of the stewardship responsibilities of and actions taken by NNSA to manage cultural resources at LANL. It also provides a framework for consultation with and visitation of resources by local pueblos and tribes. In accordance with the *Cultural Resources Management Plan*, a cultural resource assessment is made of areas that may be affected by the proposed project. NNSA officially notifies the pueblos and tribes that are culturally affiliated with the area now occupied by LANL regarding proposed CMRR-NF project activities that have a potential to affect their respective cultural resources. The *Cultural Resources Management Plan* and its associated implementing Programmatic Agreement were approved by the Los Alamos Site Office, the New Mexico State Historic Preservation Officer, and the Advisory Council on Historic Preservation in 2000. An updated *Cultural Resources Management Plan* was approved and a new Programmatic Agreement was signed in 2006. A review (conducted every 5 years) of the *Cultural Resources Management Plan* is currently underway; when approved it will lead to a new Programmatic Agreement.

Should any adverse impacts be identified as a result of activities evaluated in this *CMRR-NF SEIS*, NNSA would work with the State Historic Preservation Office, as well as any of the culturally affiliated pueblos and tribes, to resolve any adverse effects. Previous consultation documents regarding the CMRR Project are not listed because they contain protected information about the location of culturally sensitive sites.

5.7.1.3 Federally Recognized Native American Nations

DOE is aware of and in compliance with Executive Order 13175, which requires all Federal agencies to engage in consultation and coordination with tribal governments on matters of mutual concern. Consistent with that order, DOE promulgated DOE Order 144.1 to provide further amplifying guidance. Acting under that order, the Los Alamos Site Office continues its long-standing practice of engaging area tribal authorities through several mechanisms. The mechanisms include specific Accords between DOE and four Pueblo governments (Cochiti, San Ildefonso, Jemez, and Santa Clara) whose lands are adjacent to or near LANL. The Accords set forth the specifications for maintaining a government-to-government relationship between DOE and each of the four Pueblos. These Accords have been in place since 1992, and are renewed periodically.

Further, NNSA requires the LANL contractor to incorporate provisions of DOE Order 144.1 into its management of LANL. Beyond engagement with the four Accord Pueblos, continuous liaison is maintained with member tribes of the Eight Northern Indian Pueblos Council, the All Indian Pueblos Council, and others as relevant to the programs and activities of the site. NNSA and the site contractor have frequent informational and coordinating meetings with federally recognized tribes. For example, monthly meetings are held with Santa Clara Pueblo representatives, quarterly government-to-government consultations are held with Pueblo of San Ildefonso representatives, and joint semi-annual meetings are held by DOE Environmental Management and NNSA with all nuclear-impacted tribes across the country, including those surrounding LANL.

In addition to addressing environmental and other concerns, these formal interactions have led to mutually beneficial economic engagements. In fiscal year 2010, LANL awarded over $100 million in contracts to Native American and tribally owned businesses and additional substantial contracts have been awarded in fiscal year 2011.

With respect to this *CMRR-NF SEIS*, in addition to activities undertaken in accordance with the *Cultural Resources Management Plan*, NNSA notified the tribal governments in the seven northern counties of New Mexico and offered to provide individual briefings. Several briefings were held, including formal briefings to the duly assembled Tribal Council of the Pueblo of San Ildefonso, and the duly assembled Council of the Santa Clara Pueblo. Further, leaders of the Pueblo of San Ildefonso, Santa Clara Pueblo, and the Eight Northern Indian Pueblos Council have toured the CMRR Project on several occasions.

5.7.2 Consultation Letters

Consultation letters associated with this *CMRR-NF SEIS* are attached at the end of this section. They include correspondence from USFWS in response to requests for Section 7 consultation under the Endangered Species Act.

Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

APR 0 4 2003

Dr. Joy Nicholopoulos, Field Supervisor
U.S. Department of the Interior
Fish and Wildlife Service
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, NM 87113

Reference: Transmittal of a Biological Assessment and Request for Formal Consultation Regarding the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory

Dear Dr. Nicholopoulos:

The Department of Energy (DOE), National Nuclear Security Administration (NNSA) is proposing to construct and operate a new replacement facility for the existing Chemistry and Metallurgy Research (CMR) Building at Los Alamos National Laboratory (LANL). The preferred proposed location for the new facility (referred to as the CMRR Facility) is within Technical Area (TA)-55 at LANL; the existing CMR Building is located within TA-3 at LANL. The estimated time for initiation of construction is 2004; it is estimated that the new facility would become operational in 2010 and the project would be completed in about 2012. Construction of the new facility could involve the construction of one to three new buildings, support structures, new parking areas, and could include the rerouting of a small portion of Pajarito Road along the edge of Two-Mile Canyon.

Construction activities would be expected to continue year-round, once initiated. Small portions of Mexican spotted owl (*Strix occidentalis lucida*) potential nesting, roosting and foraging habitat could be removed during the project's construction phase; parking lot lighting and increased noise generation and human activities in the vicinity could also occur next to the remaining potential habitat areas during the project's operational phase. No individual Mexican spotted owls have been observed in the vicinity of TA-55 over the last 5 years. NNSA has, therefore, determined that the construction and operation of the new CMRR Facility <u>may affect and is likely to adversely affect</u> the Mexican spotted owl potential habitat at TA-55. Potential foraging habitat for the bald eagle (*Haliaeetus leucocephalus*) also exists at TA-55; however, NNSA has determined that the construction and operation of the new CMRR Facility <u>may affect but is not likely to adversely affect</u> the bald eagle potential habitat at TA-55.

APR 0 4 2003

Dr. Joy Nicholopoulos 2

A Biological Assessment with appropriate site information is provided to the Fish and Wildlife Service as an enclosure to this letter, as we engage in the Formal Consultation process under Section 7 of the Endangered Species Act (50 CFR 402.14, Formal Consultation). We look forward to an expeditious completion of this consultation process.

If you have any questions during this consultation process, please call Ms. Elizabeth Withers, of my staff, at (505) 667-8690 or Dr. Tim Haarmann, Biology Team Leader for the University of California at LANL, at (505) 667-5019.

Sincerely,

E. Dennis Martinez

for:

Ralph E. Erickson
Manager
Los Alamos Site Office

OOM:1RE-017

Enclosure

cc w/o enclosure:
Elizabeth Withers, OFO, LASO
John Stetson, PWT, LASO
Tim Haarmann, LANL, MS-M887

United States Department of the Interior

FISH AND WILDLIFE SERVICE
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April 15, 2003

Cons. # 2-22-03-F-0302

Ralph E. Erickson, Manager
Department of Energy
National Nuclear Security Administration
Los Alamos Area Office,
Los Alamos, New Mexico 87544

Dear Mr. Erickson:

This letter acknowledges the U.S. Fish and Wildlife Service's (Service) April 4, 2003, receipt of your April 4, 2003, letter requesting initiation of formal section 7 consultation under the Endangered Species Act as amended (16 U.S.C. § 1531 to 1544 *et seq.*) (ESA). The consultation concerns the possible effects of your proposed construction and operation of a new replacement facility for the existing Chemistry and Metallurgy Research Building at Los Alamos National Laboratory, Los Alamos County, New Mexico on Mexican spotted owl (*Strix occidentalis lucia*) and the bald eagle (*Haliaeetus leucocephalus*).

The Service has now received the information necessary to initiate formal consultation, as outlined in the regulations governing interagency consultation (50 CFR § 402.14). All information required of you to initiate this consultation was either included with your letter and assessment or is otherwise accessible for our consideration and reference.

Section 7 allows the Service up to 90 calendar days to conclude formal consultation with your agency and an additional 45 calendar days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, we expect to provide you with our biological opinion no later than August 17, 2003.

As a reminder, the ESA requires that after initiation of formal consultation, the Federal action agency may not make any irreversible or irretrievable commitment of resources that limit future options. This practice ensures agency actions do not preclude the formulation or implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species or destroying or modifying their critical habitats.

Ralph E. Erickson, Manager 2

We have assigned log number 2-22-03-F-0302 to this consultation. Please refer to that number in future correspondence on this consultation. If we can be of further assistance, please contact Santiago R. Gonzales of my staff at (505) 761-4755.

Sincerely,

Joy E. Nicholopoulos

Joy E. Nicholopoulos
State Supervisor

cc:
NEPA Compliance Officer, Department of Energy, National Nuclear Security Administration, Los Alamos, NM (Attn: Elizabeth Withers)

United States Department of the Interior

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May 14, 2003

Cons. # 2-22-03-F-0302

Ralph E. Erickson, Area Manager
Department of Energy
Los Alamos Area Office
Los Alamos, New Mexico 87544

Dear Mr. Erickson:

This letter transmits the U.S. Fish and Wildlife Service's (Service) review of the proposed Department of Energy (DOE), National Nuclear Security Administration construction of a Chemistry Metallurgy Research Building Replacement Project (CMRR) and its effects on the bald eagle (*Haliaeetus leucocephalus*) and Mexican spotted owl (*Strix occidentalis lucida*) (owl) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The DOE has submitted the Biological Assessment (BA): The Potential Effects of the Chemistry and Metallurgy Research Facility Replacement Project on Federally Listed Threatened, Endangered, and Sensitive Species Los Alamos National Laboratory (LANL), Los Alamos, New Mexico dated April 2003. The BA evaluated the anticipated effects on federally listed species and their habitats, resulting from the construction of the CMRR at Technical Area 55 (TA-55) of LANL. The proposed project will consist of two to three buildings (a total of 200,000 square feet [sq ft] and utilize approximately 16 hectares (ha) (40 acres [ac]) in Los Alamos County, New Mexico.

The Service concurs with your "may affect, not likely to adversely affect" determination for the bald eagle at TA-55. The following reasons are given to support our concurrence; 1) only foraging habitat exists at the proposed CMRR location and 2) bald eagles have not been recorded foraging on or near the proposed construction location.

The DOE has determined that the proposed CMRR "is likely to adversely affect" the owl. Based on information provided in the April 4, 2003, BA and other information available to the Service, and telephone conversations with your staff, we believe the appropriate conclusion is "may affect, not likely to adversely affect" for the owl. The following reasons are given to support our determination: 1) no owls have been recorded in the project area; 2) owls have not been found nesting or roosting within 2.7 kilometers (1.6 miles) of the proposed CMRR; 3) only approximately 7.8 ha (19.3 ac) in the core and 6.8 ha (16.8 ac) in buffer areas of area of environmental interest (AEI) habitat may be disturbed; 4) potential disturbance during construction of the CMRR is expected to be insignificant or discountable based on the

Ralph E. Erickson, Area Manager 2

information provided in the BA; 4) Delaney *et al.* (1997) suggested that owls may habituate to repeated noise disturbance exposures as the nesting season progresses; 5) they also reported that owls did not flush at distances greater than 105 meters (m) from the noise source; 6) Gallegos *et al.* (1997) and Gonzales *et al.* (1997) reported at least 100 potential nesting sites in the Canon de Valle and Los Alamos Canyon AEIs; therefore, nest-site selection should not be precluded; 7) the size of the building site 16.2 ha (40 ac) is insignificant; and 8) LANL will conduct owl presence/absence surveys before CMRR construction activities begin. Therefore, we believe that the effects of the CMRR project on the owl will be insignificant or discountable because of the small project size and disturbance of impact, and the habitat has not been occupied for at least 8 years.

The Service appreciates the thorough analyses provided in the BA and your efforts to protect endangered and threatened species. Please contact the Service if you have questions or wish to discuss our conclusion.

Please contact the Service if: 1) future surveys detect listed, proposed or candidate species in habitats where they have not been previously observed; 2) the project is changed or new information reveals additional effects of the proposed action to listed species; 3) a new species is listed or critical habitat designated that may be affected by the proposed action. In future communications regarding this project, please refer to Consultation #2-22-03-F-0302. If we can be of further assistance, please contact Santiago R. Gonzales of my staff at (505) 761-4755.

Sincerely,

Joy E. Nicholopoulos

Joy E. Nicholopoulos
State Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

Ralph E. Erickson, Area Manager 3

Literature Cited

Delaney, K. D., T. G. Grubb, and L. L. Pater. 1997. Effects of helicopter noise on nesting Mexican spotted owls. Report to Holloman Air Force Base, US Air Force, Alamogordo, New Mexico. 49 pp.

Gallegos, A. F., G. J. Gonzales, K. D. Bennett, and L. E. Pratt. 1997. Preliminary risk assessment of the Mexican spotted owl under a spatially-weighted foraging regime at the Los Alamos National Laboratory. Los Alamos National Laboratory Report LA:13259-MS. 62 pp.

Gonzales, G. J., A. F. Gallegos, and T. S. Foxx. 1997. Second annual review update: preliminary risk assessment of federally listed species at the Lao Alamos National Laboratory. Los Alamos National Laboratory. Los Alamos National Laboratory Report LA-UR-97-4732. 14 pp.

United States Department of the Interior

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March 9, 2005

Cons. # 2-22-03-I-0302

Ms. Elizabeth R. Withers
ESA Program Manager
National Nuclear Security Administration
Los Alamos Site Ofice
Los Alamos, New Mexico 87544

Dear Ms. Withers:

Thank you for your February 1, 2005, biological assessment (BA) of The Potential Effects of the Chemistry and Metallurgy Research Facility Replacement Project on Federally Listed Threatened , Endangered, and Sensitive Species Los Alamos National Laboratory, Los Alamos, New Mexico. The Los Alamos National Laboratory (LANL) proposes to construct replacement buildings for the Chemistry and Metallurgy Research (CMR) facility along Pajarito Road in the central portion of LANL. The proposed action would construct additional buildings and their associated parking lots north and south of the existing Prajarito Road. Your letter requesting consultation for the proposed project and its effects on the threatened Mexican spotted owl (owl) (*Strix occidentalis lucida*) and the bald eagle (*Haliaeetus leucocephalus*) was received by the U.S. Fish and Wildlife Service (Service) on February 2, 2005. The LANL has determined that proposed construction "may affect, is not likely to adversely affect" the owl and the bald eagle.

The following information about the proposed project was provided in the BA or was otherwise available to the Service:

- Surveys conducted to protocol did not detect owls in the project area.
- No cutting of trees larger than 8 inches diameter at chest height would take place in the canyon or on the canyon rim.
- Trees on the canyon rims would be retained to provide a screen for the canyon habitat.
- No thinning of trees smaller than 8 inches diameter or ground clearing would take place in the canyons until the areas are surveyed.
- There are no protected activity centers (PACs) within the project area.
- Seasonal occupancy surveys for owls and bald eagles would be conducted before construction would commence.
- All exposed soils would be re-vegetated with native seed mix as soon as construction is completed.
- All trees planted in association with construction would be native species for this elevation and forest type.
- Presence and absence for bald eagles would be monitored during construction in the fall and winter.

- If a bald eagle were present within 0.25 mile of the project area in the morning before project activity begins, or arrives during breaks in project activity, the contactor would be required to suspend all activity until the bird left of its own volition; or an Ecology Group biologist, in consultation with the Service, determines that the potential for harassment is minimal.
- If bald eagles are consistently found in the immediate project area during the construction periods, the biologist would contact the Service to determine if formal consultation under the Endangered Species Act is required.

We find that your proposed action and associated activities would conform with the Mexican Spotted Owl Recovery Plan (U.S. Fish and Wildlife Service 1995) because owl prey habitat would be retained or only temporarily impacted. We also find that potential effects to bald eagles would be minimal. For these reasons and the information listed above, the Service concurs with your determination that the proposed action "may affect, is not likely to adversely affect" the owl and the bald eagle.

This concludes consultation for the Chemistry and Metallurgy Research Facility Replacement Project. Please contact the Service if: (1) new information reveals effects of the agency action that may affect the species to an extent not considered in this consultation; (2) the agency action is subsequently modified in a manner that causes an effect to the species that was not considered by the proposed action, (3) owls or bald eagles are detected within the project area, and (4) a new species is listed or critical habitat designated that may be affected by the proposed project.

We appreciate the thorough analyses provided in the letter and the EA and your efforts to protect endangered and threatened species. In future communications regarding this project, please refer to consultation #2-22-03-I-0302. If we can be of further assistance, please contact Santiago R. Gonzales of my staff at (505) 761-4755.

Sincerely,

Susan MacMullin

Susan MacMullin
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

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06 FEB 10 P 1:55

February 7, 2006

Cons. # 2-22-03-I-0302

Ms. Elizabeth R. Withers
ESA Program Manager
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

Dear Ms. Withers:

Thank you for your January 19, 2006, amended biological assessment (BA) of the potential effects of the Chemistry and Metallurgy Research Facility Replacement (CMRR) Project, Los Alamos National Laboratory, Los Alamos, New Mexico. The Los Alamos National Laboratory (LANL) proposes to construct replacement buildings for the CMRR facility along Pajarito Road in the central portion of LANL. The proposed action would construct additional buildings and their associated parking lots north and south of the existing Pajarito Road. The amended BA analyzes the potential effects on threatened and endangered species of the CMRR project as previously revised with the additional construction of an electrical substation for the combined Technical Area-55 and CMRR complex in the area south of Pajarito Road. Your letter requesting consultation for the proposed project and its effects on the threatened Mexican spotted owl (owl) (*Strix occidentalis lucida*) and the bald eagle (*Haliaeetus leucocephalus*) was received by the U.S. Fish and Wildlife Service (Service) on January 19, 2006. You determined that proposed construction "may affect, is not likely to adversely affect" the owl and the bald eagle, and requested concurrence.

The following information about the proposed project was provided in the BA or was otherwise available to the Service:

- Owls have been found nesting or roosting approximately 1.6 miles and 0.5 miles fro the proposed CMRR.
- Owlets were produced in 1994, 1999, and 2004.
- A new owl was detected in 2004 and 2005 season, young may have been produced in 2005.
- Owls have not been detected in Pajarito or Two-Mile Canyons.
- The 115-kV substation would be constructed with bird-friendly protective devices.
- Lighting will meet New Mexico Sky Lighting Act requirements.
- Trees cutting will be selective to limit tree removal.
- Disturbance and noise would be kept to a minimum at the proposed CMRR construction site.

- No cutting of trees larger than 8 inches in diameter at chest height would take place in the canyon or directly on the canyon rim.
- Trees on the canyon rims would be retained to provide a screen for the canyon habitat.
- No thinning of trees smaller than 8 inches diameter or ground clearing would take place in the canyons until the areas are surveyed.
- There are no protected activity centers (PACs) within the project area.
- Seasonal occupancy surveys for owls and bald eagles would be conducted before construction would commence.
- All exposed soils would be re-vegetated with native seed mix as soon as construction is completed.
- All trees planted in association with construction would be native species for this elevation and forest type.
- Presence and absence for bald eagles would be monitored during construction in the fall and winter.
- If a bald eagle were present within 0.25 mile of the project area in the morning before project activity begins, or arrives during breaks in project activity, the contactor would be required to suspend all activity until the bird left of its own volition; or an Ecology Group biologist, in consultation with the Service, determines that the potential for harassment is minimal.
- If bald eagles are consistently found in the immediate project area during the construction periods, the biologist would contact the Service to determine if formal consultation under the Endangered Species Act is required.

We find that your proposed amended action and associated activities conform with the Mexican Spotted Owl Recovery Plan (U.S. Fish and Wildlife Service 1995) because the disturbed owl prey habitat is less than 1 percent of the total Pajarito or Sandia-Mortandad owl habitat and therefore, insignificant and discountable. We also find that potential effects to bald eagles would be minimal. For these reasons and the information listed above, the Service concurs with your determination that the proposed action "may affect, is not likely to adversely affect" the owl and the bald eagle.

This concludes consultation for the Chemistry and Metallurgy Research Facility Replacement Project as amended. Please contact the Service if: (1) new information reveals effects of the agency action that may affect the species to an extent not considered in this consultation; (2) the agency action is subsequently modified in a manner that causes an effect to the species that was not considered by the proposed action, (3) owls or bald eagles are detected within the project area, and (4) a new species is listed or critical habitat designated that may be affected by the proposed project.

We appreciate the thorough analyses provided in the letter and the EA and your efforts to protect endangered and threatened species. In future communications regarding this project, please refer

Ms. Elizabeth R. Withers 3

to consultation #2-22-03-I-0302. If we can be of further assistance, please contact Santiago R. Gonzales of my staff at (505) 761-4755.

Sincerely,

for Brian Hanson
Acting Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

United States Department of the Interior

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September 26, 2007

Cons. # 22420-2007-I-0126

Vicki Loucks, Biological Resource Program Manager
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

Dear Ms. Loucks:

This letter responds to your August 13, 2007, Biological Assessment (BA) requesting informal consultation for expanding the footprint of the Chemistry and Metallurgy Research facility at Los Alamos National Laboratory (LANL), Los Alamos, New Mexico to the east for additional lay down areas and to construct and operate a cement plant. According to the BA, the proposed project would develop an additional lay down area for storage of soil spoils and staged equipment as well as construction and operation of a cement plant to provide concrete for the construction work. The total project area covers 141.76 acres. Your letter requesting consultation for the proposed project and its effects on the threatened Mexican spotted owl (owl) (*Strix occidentalis lucida*) and the bald eagle (*Haliaeetus leucocephalus*) was received by the U.S. Fish and Wildlife Service (Service) on August 15, 2007. LANL has determined that the proposed project "may affect, is not likely to adversely affect" the owl and the bald eagle.

According to the Federal Register (50 CFR Part 7, 2007), the Service removed the bald eagle from the Federal list of Threatened and Endangered Wildlife, effective August 8, 2007. Due to this decision, consultation under Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531 *et seq.*) is not required for the bald eagle. Therefore, impacts to the bald eagle from the proposed project will not be evaluated further in this letter.

According to the BA, the following Reasonable and Prudent Alternatives would be implemented to lessen the impact from the proposed project:

- Keep disturbance and noise to a minimum at the site.
- Areas of lowest tree density should be used when choosing any access routes.
- No cutting of trees larger than 8 inches diameter at chest height would take place in the canyon or on the canyon rim.
- Trees on the canyon rims would be retained to provide a screen for the canyon habitat.
- No thinning of trees smaller than 8 inches diameter or ground clearing would take place in the canyons until the areas are surveyed.
- There are no protected activity centers (PACs) within the project area.
- Seasonal occupancy surveys for owls would be conducted before construction would commence.

Vicki Loucks, Biological Resource Program Manager 2

- Final lighting of the facilities and roads will be kept at a minimum to limit the lighting of the surrounding forest and canyon.
- Appropriate erosion and runoff controls would be employed to reduce erosion and limit sedimentation.
- Excessive parking areas, off-road travel, materials storage areas, and crossing of streams must be avoided.
- All exposed soils would be re-vegetated with native seed mix as soon as construction is completed.
- All trees planted in association with construction would be native species for this elevation and forest type.
- All equipment maintenance and fueling must be completed at least 100 feet from stream channel.
- New temporary staging areas will be rehabilitated using native vegetation.

We find that your proposed action and associated activities would conform with the Mexican Spotted Owl Recovery Plan (U.S. Fish and Wildlife Service 1995) because owl prey habitat would be retained or only temporarily impacted. Surveys conducted to protocol did not detect owls in the project area. For these reasons and the information listed above, the Service concurs with your determination that the proposed action "may affect, is not likely to adversely affect" the owl.

This concludes consultation for the Chemistry and Metallurgy Research Facility Replacement project. Please contact the Service if: (1) new information reveals effects of the agency action that may affect the species to an extent not considered in this consultation; (2) the agency action is subsequently modified in a manner that causes an effect to the species that was not considered by the proposed action, (3) owls are detected within the project area, and (4) a new species is listed or critical habitat designated that may be affected by the proposed project.

We appreciate the thorough analyses provided in the BA and your efforts to protect endangered and threatened species. If we can be of further assistance, please contact Lynn Gemlo of my staff at (505) 761-4726.

Sincerely,

Nancy R. Riley

for Wally Murphy
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

August 6, 2009

Cons. # 22420-09-I-0066

Ms. Vicki D. Loucks
Biological Resource Program Manager
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

Dear Ms. Loucks:

Thank you for your June 26, 2009, letter and amended Biological Assessment (BA) requesting informal consultation of the Potential Change in Project Effects of the Chemistry and Metallurgy Research Facility Replacement Project on Federally Listed Threatened and Endangered Species at Los Alamos National Laboratory (LANL), Los Alamos, New Mexico. According to the amended BA, LANL is proposing to construct a replacement for the Chemistry and Metallurgy Research Facility which includes new buildings, a 115-kV substation, and associated parking lots on the north and south sides of Pajarito Road. The amended BA describes a change in the proposed action which includes moving the underground utilities from the north side of Pajarito Road to the south by one road width to the edge of Two-Mile Canyon for 3,000 feet. The proposed electrical substation would also be moved as far south as possible while remaining on the mesa. Your letter requesting consultation for the proposed project and its effects on the threatened Mexican spotted owl (*Strix occidentalis lucida*) (MSO) was received by the Service on June 30, 2009. LANL has determined that the proposed project "may affect, is not likely to adversely affect" the MSO.

The following information about the proposed project was provided in the BA or was otherwise available to the Service:

- Surveys conducted to protocol through 2009 did not detect MSO in the project area.
- No cutting of trees larger than 8 inches diameter at chest height would take place in the canyon or on the canyon rim.
- Trees on the canyon rims would be retained to provide a screen for the canyon habitat.
- Seasonal MSO occupancy surveys will be completed in the project area.
- There are no protected activity centers (PACs) within the project area.
- All exposed soils would be re-vegetated with native seed mix as soon as construction is completed.
- All trees planted in association with construction would be native species for this elevation and forest type.

Ms. Vicki D. Loucks 2

We find that your proposed action and associated activities would conform with the Mexican Spotted Owl Recovery Plan (U.S. Fish and Wildlife Service 1995) because MSO prey habitat would be retained or only temporarily impacted. For these reasons and the information listed above, the Service concurs with your determination that the proposed action "may affect, is not likely to adversely affect" the MSO.

This concludes consultation for the Chemistry and Metallurgy Research Facility Replacement Project. Please contact the Service if: (1) new information reveals effects of the agency action that may affect the species to an extent not considered in this consultation; (2) the agency action is subsequently modified in a manner that causes an effect to the species that was not considered by the proposed action, (3) MSO are detected within the project area, and (4) a new species is listed or critical habitat designated that may be affected by the proposed project.

We appreciate the thorough analyses provided in the BA and your efforts to protect endangered and threatened species. In future communications regarding this project, please refer to consultation # 22420-2009-I-0066. If we can be of further assistance, please contact Lynn Gemlo of my staff at (505) 761-4726.

Sincerely,

Patricia G. Zenone

Acting for Wally Murphy
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
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May 2, 2011

Cons. # 22420-2011-I-0052

Vicki D. Loucks
Biological Resource Program Manager
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

Dear Ms. Loucks:

This responds to your April 6, 2011, cover letter and biological assessment (BA) requesting informal consultation for the effects from temporary spoils storage, staging, new parking, and vehicle turnaround at Los Alamos National Laboratory, New Mexico, received on April 8, 2011. As documented in your BA, which is hereby incorporated by reference, we find that your proposed action will have insignificant and discountable effects to the Mexican spotted owl (*Strix occidentalis lucida*). Therefore, the Service concurs with your determination of "may affect, not likely to adversely affect".

This concludes section 7 consultation regarding the proposed action. If monitoring or other information results in modification or the inability to complete all aspects of the proposed action, consultation should be reinitiated. Please contact the Service if: 1) future surveys detect listed, proposed or candidate species in habitats where they have not been previously observed; 2) the proposed action changes or new information reveals effects of the proposal to listed species that have not been considered in this analysis; or 3) a new species is listed or critical habitat designated that may be affected by the action.

Thank you for your concern for endangered species and New Mexico's wildlife habitats. If you have any questions, please contact Lynn Gemlo of my staff at the letterhead address or at (505) 761-4726.

Sincerely,

Wally Murphy
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

CHAPTER 6
GLOSSARY

6 GLOSSARY

***actinide* —** Any member of the group of elements with atomic numbers from 89 (actinium) to 103 (lawrencium), including uranium and plutonium. All members of this group are radioactive.

***activation products* —** Nuclei, usually radioactive, formed by bombardment and absorption in material with neutrons, protons, or other nuclear particles.

***active fault* —** A fault that is likely to have another earthquake sometime in the future. Faults are commonly considered to be active if they have moved one or more times in the last 10,000 years (i.e., during the Quaternary Period).

***acute exposure* —** A single, short-term exposure to a radiation source, a toxic substance, or other stressors that may result in biological harm. Pertaining to radiation, the absorption of a relatively large amount of radiation (or intake of radioactive material) over a short period of time.

***administrative control level* —** A dose level that is established well below the regulatory limit to administratively control and help reduce individual and collective radiation doses. Facility management should establish an annual facility administrative control level that should, to the extent feasible, be more restrictive than the more general administrative control level.

***aggregate* —** Any of various loose, particulate materials, such as sand, gravel, or pebbles, added to a cementing agent to make concrete, plaster, or grout.

***air pollutant* —** Generally, an airborne substance that could, in high enough concentrations, harm living things or cause damage to materials. From a regulatory perspective, an air pollutant is a substance for which emissions or atmospheric concentrations are regulated or for which maximum guideline levels have been established due to potential harmful effects on human health and welfare.

***air quality control region* —** Geographic subdivisions of the United States, designed to deal with pollution on a regional or local level. Some regions span more than one state.

***alluvium (alluvial)* —** Unconsolidated, poorly sorted detrital sediments ranging from clay to gravel sizes deposited by streams.

***alpha particle* —** A positively charged particle ejected spontaneously from the nuclei of some radioactive elements. It is identical to a helium nucleus and has a mass number of 4 and an electrostatic charge of +2. It has low penetrating power and a short range (a few centimeters in air). (See *alpha radiation*.)

***alpha radiation* —** A strongly ionizing, but weakly penetrating, form of radiation consisting of positively charged alpha particles emitted spontaneously from the nuclei of certain elements during radioactive decay. Alpha radiation is the least penetrating of the four common types of ionizing radiation (alpha, beta, gamma, and neutron). Even the most energetic alpha particle generally fails to penetrate the layers of dead cells covering the skin and can be easily stopped by a sheet of paper. Alpha radiation is most hazardous when an alpha-emitting source resides inside an organism. (See *alpha particle*.)

***A.M. peak hour* —** The highest design hour of traffic on a roadway in the morning (A.M.) hours. A.M. hours are typically between 7 and 9 A.M.

***ambient air* —** The surrounding atmosphere as it exists around people, plants, and structures.

***ambient air quality standards* —** The level of pollutants in the air prescribed by regulations that may not be exceeded during a specified time in a defined area. Air quality standards are used to provide a measure of the health-related and visual characteristics of the air.

***analytical chemistry* —** The branch of chemistry that deals with the separation, identification, and determination of the components of a sample.

***annual average daily traffic (AADT)* —** The total volume of traffic passing a point or segment of a highway in both directions for 1 year divided by the number of days in a year.

***aquatic* —** Living or growing in, on, or near water.

***aquifer* —** A body of rock or sediment that is capable of transmitting groundwater and yielding usable quantities of water to wells or springs.

***archaeological sites (resources)* —** Any location where humans have altered the terrain or discarded artifacts during either prehistoric or historic times.

***areas of environmental interest (AEI)* —** Areas within Los Alamos National Laboratory (LANL) that are being managed and protected because of their significance to biological or other resources. Habitats of threatened and endangered species that occur or may occur at LANL are designated as AEIs. In general, a threatened and endangered species AEI consists of a core area that contains important breeding or wintering habitat for a specific species and a buffer area around the core area. The buffer protects the area from disturbances that would degrade the value of the core area to the species.

***artifact* —** An object produced or shaped by human workmanship of archaeological or historical interest.

***arterial roadway* —** A roadway that primarily serves through traffic and that secondarily provides access to adjoining properties.

***as low as is reasonably achievable (ALARA)* —** An approach to radiation protection to manage and control worker and public exposures (both individual and collective) and releases of radioactive material to the environment to as far below applicable limits as social, technical, economic, practical, and public policy considerations permit. ALARA is not a dose limit, but, rather, a process for minimizing doses to as far below limits as is practicable.

***atmospheric dispersion* —** The process of air pollutants being dispersed in the atmosphere. This occurs by wind that carries the pollutants away from their source, by turbulent air motion that results from solar heating of the Earth's surface, and by air movement over rough terrain and surfaces.

***Atomic Energy Commission* —** A five-member commission, established by the Atomic Energy Act of 1946, to supervise nuclear weapons design, development, manufacturing, maintenance, modification, and dismantlement. In 1974, the Atomic Energy Commission was abolished, and all functions were transferred to the U.S. Nuclear Regulatory Commission (NRC) and the Administrator of the Energy Research and Development Administration. The Energy Research and Development Administration was later terminated, and functions vested by law in the Administrator were transferred to the Secretary of Energy.

***atomic number* —** The number of positively charged protons in the nucleus of an atom or the number of electrons in an electrically neutral atom.

attainment area — An area that the U.S. Environmental Protection Agency has designated as being in compliance with one or more of the National Ambient Air Quality Standards for sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. An area may be in attainment for some pollutants, but not for others. (See *ambient air quality standards*, *nonattainment area*, and *particulate matter*.)

attractiveness level — A categorization of nuclear material types and compositions that reflects the relative ease of processing and handling required to convert a material to a nuclear explosive device.

barrier — Any material or structure that prevents or substantially delays movement of radionuclides toward the accessible environment.

basalt — The most common volcanic rock, dark gray to black in color, high in iron and magnesium, and low in silica. It is typically found in lava flows.

baseline — The existing environmental conditions against which impacts of a proposed action and its alternatives can be compared.

bearing capacity — Capacity of soil to support the loads applied to the ground.

beryllium — An extremely lightweight element with the atomic number 4. It is metallic and is used in reactors as a neutron reflector.

best management practices (BMPs) — Structural, nonstructural, and managerial techniques, to prevent or reduce negative impacts or to promote positive impacts. They are the most effective and practical means for controlling impacts that are compatible with the productive use of the resource to which they are applied. BMPs are used in both urban and agricultural areas. BMPs can include schedules of activities; prohibitions of practices; maintenance procedures; treatment requirements; operating procedures; and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

beta particle — A particle emitted in the radioactive decay of many radionuclides. A beta particle is identical to an electron. It has a short range in air and a small ability to penetrate other materials.

block — A U.S. Census Bureau term describing small areas bounded on all sides by visible features or political boundaries; used in tabulation of census data.

bound — To use simplifying assumptions and analytical methods in an analysis of impacts or risks such that the result overestimates, or describes an upper limit on (i.e., "bounds"), potential impacts or risks.

cancer — The name given to a group of diseases characterized by uncontrolled cellular growth, with cells having invasive characteristics such that the disease can transfer from one organ to another.

capable fault — A fault that has exhibited one or more of the following characteristics: (1) movement at or near the ground surface at least once within the past 35,000 years, or movement of a recurring nature within the past 500,000 years; (2) macroseismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault; and/or (3) a structural relationship to a capable fault according to characteristic (1) or (2) above, such that movement on one could reasonably be expected to be accompanied by movement on the other.

***carbon dioxide* —** A colorless, odorless gas that naturally occurs in the atmosphere; it also results from fossil fuel combustion and biomass burning.

***carbon dioxide equivalent* —** A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP). The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP. As the reference gas, carbon dioxide has a GWP of 1.

***carbon monoxide* —** A colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion.

***carcinogen* —** An agent that may cause cancer. Ionizing radiation is a physical carcinogen; there are also chemical and biological carcinogens. Biological carcinogens may be external (e.g., viruses) or internal (genetic defects).

***cask* —** A heavily shielded container used to store or ship radioactive materials.

***categories of special nuclear material (Categories I, II, III, and IV)* —** A designation determined by the quantity and type of special nuclear material or a designation of a special nuclear material location based on the type and form of the material and the amount of nuclear material present. A designation of the significance of special nuclear material based upon the material type, form of the material, and amount of material present in an item, grouping of items, or in a location.

***cavate* —** Consists of a room carved into a cliff face within the Bandelier Tuff geological formation. The category includes isolated cavates, multi-roomed contiguous cavates, and groups of adjacent cavates that together form a cluster or complex.

***cell* —** See *hot cell*.

***Class I areas* —** Specifically designated areas where the degradation of air quality is stringently restricted (e.g., many national parks and wilderness areas). (See *Prevention of Significant Deterioration*.)

***Class II areas* —** Most of the country not designated as Class I is designated as Class II. Class II areas are generally cleaner than air quality standards require, and moderate increases in new pollution are allowed after an impacts review mandated by regulations.

***classified information* —** (1) Information that has been determined pursuant to Executive Order 12958, any successor order, or the Atomic Energy Act of 1954 (42 *United States Code* [U.S.C.] 2011) to require protection against unauthorized disclosure; (2) certain information requiring protection against unauthorized disclosure in the interest of national defense and security or foreign relations of the United States pursuant to Federal statute or Executive order.

***climbing lane* —** A passing lane added on an upgrade to allow traffic to pass heavy vehicles whose speeds are reduced.

***collective dose* —** The sum of the individual doses received in a given period of time by a specified population from exposure to a specified source of radiation. Collective dose is expressed in units of person-rem or person-sieverts.

***collector roadway* —** A roadway that primarily serves to provide access to adjoining properties and to provide traffic circulation within the local area.

***colluvium (colluvial)* —** A loose deposit of rock debris accumulated at the base of a cliff or slope.

***community (biotic)* —** All plants and animals occupying a specific area under relatively similar conditions.

***community (environmental justice)* —** A group of people or a site within a spatial scope exposed to risks that potentially threaten health, ecology, or land values or who are exposed to industry that stimulates unwanted noise, smells, industrial traffic, particulate matter, or other nonaesthetic impacts.

***computational modeling* —** Use of a computer to develop a mathematical model of a complex system or process and to provide conditions for testing it.

***conformity* —** Conformity is defined in the Clean Air Act as (1) an action's compliance with an implementation plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards, (2) expeditious attainment of such standards, and (3) assurance that such activities will not: cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard, required interim emission reduction, or other milestones in any area.

***contact-handled waste* —** Radioactive waste or waste packages whose external dose rate is low enough to permit contact handling by humans during normal waste management activities (typically, waste with a surface dose rate not greater than 200 millirem per hour). (See *remote-handled waste*.)

***container* —** Regarding radioactive waste, the metal envelope in the waste package that provides the primary containment function of the waste package, which is designed to meet the containment requirements of Title 10 of the *Code of Federal Regulations* (CFR), Part 60 (10 CFR Part 60).

***contamination* —** The deposition of undesirable radioactive material on the surfaces of structures, areas, objects, or people.

***criteria pollutants* —** An air pollutant that is regulated by the National Ambient Air Quality Standards. The U.S. Environmental Protection Agency must describe the characteristics and potential health and welfare effects that form the basis for setting, or revising, the standard for each regulated pollutant. Criteria pollutants include sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and two size classes of particulate matter, less than 10 micrometers (0.0004 inches) in diameter, and less than 2.5 micrometers (0.0001 inches) in diameter. New pollutants may be added to, or removed from, the list of criteria pollutants as more information becomes available.

***critical habitat* —** Habitat essential to the conservation of an endangered or threatened species that has been designated as critical by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act and its implementing regulations (50 CFR Part 424). (See *endangered species* and *threatened species*.)

The lists of critical habitats can be found in 50 CFR 17.95 (fish and wildlife), 50 CFR 17.96 (plants), and 50 CFR Part 226 (marine species).

***criticality* —** The condition in which a system is capable of sustaining a nuclear chain reaction.

***cultural resources* —** Archaeological sites, historical sites, architectural features, traditional use areas, and Native American sacred sites.

***cumulative impacts* —** Impacts on the environment that result when the incremental impact of a proposed action is added to the impacts from other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non–Federal) or person undertakes the other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7).

***curie* —** A unit of radioactivity equal to 37 billion disintegrations per second (i.e., 37 billion becquerels); also, a quantity of any radionuclide or mixture of radionuclides having 1 curie of radioactivity.

***day–night average sound level* —** The 24-hour, "A-weighted" equivalent sound level expressed in decibels. A 10-decibel penalty is added to sound levels between 10:00 P.M. and 7:00 A.M. to account for increased annoyance due to noise during night hours.

***decibel (dB)* —** A unit for expressing the relative intensity of sounds on a logarithmic scale from 0 for the average least perceptible sound to about 130 for the average level at which sound causes pain to humans. For traffic and industrial noise measurements, the A-weighted decibel (dBA), a frequency-weighted noise unit, is widely used. The dBA scale corresponds approximately to the frequency response of the human ear and thus correlates well with loudness.

***decibel, A-weighted (dBA)* —** A unit of frequency-weighted sound pressure level, measured by the use of a metering characteristic and the "A" weighting specified by the American National Standards Institution (ANSI S1.4-1983 [R1594]) that accounts for the frequency response of the human ear.

***decommissioning* —** Retirement of a facility, including any necessary decontamination and/or dismantlement.

***decontamination* —** The actions taken to reduce or remove substances that pose a substantial present or potential hazard to human health or the environment, such as radioactive or chemical contamination from facilities, equipment, or soils by washing, heating, chemical or electrochemical action, mechanical cleaning, or other techniques.

***defense-in-depth* —** The use of multiple, independent protection elements combined in a layered manner so that the system capabilities do not depend on a single component to maintain effective protection against defined threats.

***degrees Centigrade (° C)* —** A unit for measuring temperature using the Centigrade scale in which the freezing point of water is 0° and the boiling point is 100°.

***degrees Fahrenheit (° F)* —** A unit for measuring temperature using the Fahrenheit scale in which the freezing point of water is 32° and the boiling point is 212°.

***depleted uranium* —** Uranium whose content of the fissile isotope uranium-235 is less than the 0.7 percent (by weight) found in natural uranium, so that it contains more uranium-238 than natural uranium.

***deposition* —** In geology, the laying down of potential rock-forming materials; sedimentation. In atmospheric transport, the settling out on ground and building surfaces of atmospheric aerosols and particles ("dry deposition"), or their removal from the air to the ground by precipitation ("wet deposition" or "rainout").

***design basis* —** For nuclear facilities, information that identifies the specific functions to be performed by a structure, system, or component, and the specific values (or ranges of values) chosen for controlling parameters for reference bounds for design. These values may be: restraints derived from generally accepted state-of-the-art practices for achieving functional goals; requirements derived from analysis (based on calculation and/or experiments) of the effects of a postulated accident for which a structure, system, or component must meet its functional goals; or requirements derived from Federal safety objectives, principles, goals, or requirements.

***design-basis earthquake* —** The earthquake that a system, component, or structure is designed to withstand and maintain a certain level of performance. For a performance category 3 facility, the design-basis earthquake has a return period of 2,500 years.

***design-basis threat* —** The elements of a threat postulated for the purpose of establishing requirements for safeguards and security programs, systems, components, equipment, and information. (See *threat*.)

***design response spectra (DRS)* —** Response spectra used for design. The DRS are equal to the product of the Uniform Hazard Response Spectra and the Design Factor and are defined at a control location in the free field.

***detention pond* —** An area where excess stormwater is collected and stored or held temporarily to prevent flooding and erosion.

***diversion* —** The unauthorized removal of nuclear material from its approved use or authorized location.

***dose (radiological)* —** A generic term meaning absorbed dose, dose equivalent, effective dose equivalent, committed dose equivalent, committed effective dose equivalent, or committed equivalent dose. It is a measure of the energy imparted to matter by ionizing radiation. The unit of dose is the rem or rad. (See *dose equivalent*, *effective dose equivalent*, and *rad*.)

***dose equivalent* —** A measure of radiological dose that correlates with biological effect on a common scale for all types of ionizing radiation. Defined as a quantity equal to the absorbed dose in tissue multiplied by a quality factor (the biological effectiveness of a given type of radiation) and all other necessary modifying factors at the location of interest. The units of dose equivalent are the rem and sievert.

***drinking water standards* —** The level of constituents or characteristics in a drinking water supply specified in regulations under the Safe Drinking Water Act as the maximum permissible.

***ecosystem* —** A community of organisms and their physical environment interacting as an ecological unit.

***effective dose equivalent* —** The dose value obtained by multiplying the dose equivalents received by specified tissues or organs of the body by the appropriate weighting factors applicable to the tissues or organs irradiated, and then summing all of the resulting products. It includes the dose from internal and external radiation sources. The effective dose equivalent is expressed in units of rem or sieverts.

***effluent* —** A waste stream flowing into the atmosphere, surface water, ground water, or soil. Most frequently, the term applies to wastes discharged to surface waters.

***emission* —** A material discharged into the atmosphere from a source operation or activity.

***emission standards* —** Legally enforceable limits on the quantities and/or kinds of air contaminants that can be emitted into the atmosphere.

***endangered species* —** Plants or animals that are in danger of extinction through all or a significant portion of their ranges and that have been listed as endangered by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures outlined in the Endangered Species Act and its implementing regulations (50 CFR Part 424). The lists of endangered species can be found in 50 CFR 17.11 (wildlife), 50 CFR 17.12 (plants), and 50 CFR 222.23(a) (marine organisms).

***engineered backfill* —** Material that is specially prepared to refill the excavation surrounding the building and restore the former ground surface.

***enriched uranium* —** Uranium whose content of the fissile isotope uranium-235 is greater than the 0.7 percent (by weight) found in natural uranium. (See *uranium* and *highly enriched uranium*.)

***environment, safety, and health requirements* —** In the context of the U.S. Department of Energy (DOE), encompasses those requirements, activities, and functions in the conduct of all DOE and DOE-controlled operations that are concerned with impacts on the biosphere; compliance with environmental laws, regulations, and standards controlling air, water, and soil pollution; limiting the risks to the well-being of both the operating personnel and the general public; and protecting property against accidental loss and damage. Typical activities and functions related to this program include, but are not limited to, environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, process and facility safety, nuclear safety, emergency preparedness, quality assurance, and radioactive and hazardous waste management.

***environmental impact statement (EIS)* —** The detailed written statement required by Section 102(2)(C) of the National Environmental Policy Act (NEPA) for a proposed major Federal action significantly affecting the quality of the human environment. A U.S. Department of Energy (DOE) EIS is prepared in accordance with applicable requirements of the Council on Environmental Quality NEPA regulations in 40 CFR Parts 1500–1508 and the DOE NEPA regulations in 10 CFR Part 1021. The statement includes, among other information, discussions of the environmental impacts of the proposed action and all reasonable alternatives; adverse environmental effects that cannot be avoided should the proposal be implemented; the relationship between short-term uses of the human environment and enhancement of long-term productivity; and any irreversible and irretrievable commitments of resources.

***environmental justice* —** The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies. Executive Order 12898 directs Federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse effects of agency programs, policies, and activities on minority and low-income populations.

***ephemeral watercourse* —** A stream that flows only after a period of heavy precipitation.

***fault* —** A fracture or a zone of fractures within a rock formation along which vertical, horizontal, or transverse slippage has occurred. A normal fault occurs when the hanging wall has been depressed in relation to the footwall. A reverse fault occurs when the hanging wall has been raised in relation to the footwall.

***fault escarpment* —** A steep slope or long cliff that results from faulting and separates two relatively level areas of differing elevations.

fissile materials —

General definition: Although sometimes used as a synonym for fissionable material, this term has acquired a more restricted meaning; namely, any material fissionable by low-energy (i.e., thermal or slow) neutrons. Fissile materials include uranium-235, uranium-233, plutonium-239, and plutonium-241.

Definition specific to hazardous materials transportation: Plutonium-238, plutonium-239, plutonium-241, uranium-233, uranium-235, or any combination of these radionuclides. The definition does not apply to nonirradiated natural uranium and depleted uranium, and natural uranium or depleted uranium that has been irradiated in a thermal reactor. Certain additional exceptions are provided in 49 CFR 173.453.

fission — A nuclear transformation that is typically characterized by the splitting of a heavy nucleus into at least two other nuclei, the emission of one or more neutrons, and the release of a relatively large amount of energy. Fission of heavy nuclei can occur spontaneously or be induced by neutron bombardment.

fission products — Nuclei (fission fragments) formed by the fission of heavy elements, plus the nuclides formed by the fission fragments' radioactive decay.

floodplain — The lowlands and relatively flat areas adjoining inland and coastal waters and the flood-prone areas of offshore islands. Floodplains include, at a minimum, that area with at least a 1.0 percent chance of being inundated by a flood in any given year.

The *base floodplain* is defined as the area that has a 1.0 percent or greater chance of being flooded in any given year. Such a flood is known as a 100-year flood.

The *critical action floodplain* is defined as the area that has at least a 0.2 percent chance of being flooded in any given year. Such a flood is known as a 500-year flood. Any activity for which even a slight chance of flooding would be too great (e.g., the storage of highly volatile, toxic, or water-reactive materials) should not occur in the critical action floodplain.

The *probable maximum flood* is the hypothetical flood considered to be the most severe reasonably possible flood, based on the comprehensive hydrometeorological application of maximum precipitation and other hydrological factors favorable for maximum flood runoff (e.g., sequential storms and snowmelts). It is usually several times larger than the maximum recorded flood.

formation — In geology, the primary unit of formal stratigraphic mapping or description. Most formations possess certain distinctive features.

freeway — A multilane divided highway with a minimum of two lanes in each direction and full access control.

fugitive emissions — (1) Emissions that do not pass through a stack, vent, chimney, or similar opening where they could be captured by a control device, or (2) any air pollutant emitted to the atmosphere other than from a stack. Sources of fugitive emissions include pumps; valves; flanges; seals; area sources such as ponds, lagoons, landfills, or piles of stored material (e.g., coal); and road construction areas or other areas where earthwork is occurring.

fumarolic — Pertaining to a vent in the ground surface, located in or near a volcano, from which hot gases, especially steam, are emitted.

***gamma radiation* —** High-energy, short wavelength, electromagnetic radiation emitted from the nucleus of an atom during radioactive decay. Gamma radiation frequently accompanies alpha and beta emissions and always accompanies fission. Gamma rays are very penetrating and are best stopped or shielded by dense materials, such as lead or depleted uranium. Gamma rays are similar to, but are usually more energetic than, x-rays.

***geology* —** The science that deals with the Earth: the materials, processes, environments, and history of the planet, including rocks and their formation and structure.

***glovebox* —** A large enclosure that separates workers from equipment used to process hazardous material while allowing the workers to be in physical contact with the equipment; normally constructed of stainless steel, with large laminated safety-glass windows. Workers have access to equipment through the use of heavy-duty, lead-impregnated rubber gloves, the cuffs of which are sealed in portholes in the glovebox windows.

***ground motion attenuation relationships* —** Predictions of ground motion parameters using a simplified model in which the effects of the earthquake source are represented by earthquake magnitude or moment.

***groundwater* —** Water below the ground surface in a zone of saturation.

Related definition: Subsurface water is all water that exists in the interstices of soil, rocks, and sediment below the land surface, including soil moisture, capillary fringe water, and groundwater. That part of subsurface water in interstices completely saturated with water is called groundwater.

***habitat* —** The environment occupied by individuals of a particular species, population, or community.

***half-life* —** The time in which one-half of the atoms of a particular radionuclide disintegrate to another nuclear form. Half-lives for specific radionuclides vary from millionths of a second to billions of years.

***Hazard Quotient* —** The value used as an assessment of non-cancer-associated toxic effects of chemicals, e.g., kidney or liver dysfunction. It is a ratio of the estimated exposure to that exposure at which it would be expected that adverse health effects would begin to be produced. It is independent of cancer risk, which is calculated only for those chemicals identified as carcinogens.

***hazards classification* —** The process of identifying the potential threat to human health of a chemical substance.

***hazardous air pollutants* —** Air pollutants not covered by the National Ambient Air Quality Standards, but that may present a threat of adverse human health or environmental effects. Those specifically listed in 40 CFR 61.01 are asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride. More broadly, hazardous air pollutants are any of the 189 pollutants listed in or pursuant to Section 112(b) of the Clean Air Act. Very generally, hazardous air pollutants are any air pollutants that may realistically be expected to pose a threat to human health or welfare.

***hazardous chemical* —** Under 29 CFR Part 1910, Subpart Z, hazardous chemicals are defined as "any chemical which is a physical hazard or a health hazard." Physical hazards include combustible liquids, compressed gases, explosives, flammables, organic peroxides, oxidizers, pyrophorics, and reactives. A health hazard is any chemical for which there is good evidence that acute or chronic health effects occur in exposed individuals. Hazardous chemicals include carcinogens; toxic or highly toxic agents; reproductive toxins; irritants; corrosives; sensitizers; hepatotoxins; nephrotoxins; agents that act on the hematopoietic system; and agents that damage the lungs, skin, eyes, or mucous membranes.

hazardous material — A material, including a hazardous substance, as defined by 49 CFR 171.8, that poses a risk to health, safety, and property when transported or handled.

hazardous substance — Any substance subject to the reporting and possible response provisions of the Clean Water Act and the Comprehensive Environmental Response, Compensation, and Liability Act.

hazardous waste — A category of waste regulated under the Resource Conservation and Recovery Act (RCRA). To be considered hazardous, a waste must be a solid waste under RCRA and must exhibit at least one of four characteristics described in 40 CFR 261.20–261.24 (i.e., ignitability, corrosivity, reactivity, or toxicity) or be specifically listed by the U.S. Environmental Protection Agency in 40 CFR 261.31 through 261.33.

high-efficiency particulate air (HEPA) filter — An air filter capable of removing at least 99.97 percent of particles 0.3 micrometers (about 0.00001 inches) in diameter. These filters include a pleated fibrous medium, typically fiberglass, capable of capturing very small particles.

high-level radioactive waste — High-level radioactive waste is the highly radioactive waste material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the U.S. Nuclear Regulatory Commission, consistent with existing law, determines by rule requires permanent isolation.

highly enriched uranium — Uranium whose content of the fissile isotope uranium-235 has been increased through enrichment to 20 percent or more (by weight). (See *enriched uranium* and *depleted uranium*.)

historic resources — Physical remains that postdate the emergence of written records; in the United States, they are architectural structures or districts, archaeological objects, and archaeological features dating from 1492 and later.

hot cell — A shielded facility that requires the use of remote manipulators for handling radioactive materials.

hydro-collapse — The process whereby soils that appear to be strong and stable in their natural (dry) state rapidly consolidate under wetting conditions, generating large and often unexpected settlement.

hydrology — The science dealing with the properties, distribution, and circulation of natural water systems.

indirect jobs — Within a regional economic area, jobs generated or lost in related industries as a result of a change in direct employment.

intracontinental rift zone — A large area within a continent in which plates of the Earth's crust are moving away from each other, forming an extensive system of fractures and faults.

ion — An atom that has too many or too few electrons, causing it to be electrically charged.

ionizing radiation — Alpha particles, beta particles, gamma rays, high-speed electrons, high-speed protons, and other particles or electromagnetic radiation that can displace electrons from atoms or molecules, thereby producing ions.

***irradiated* —** Exposure to ionizing radiation. The condition of reactor fuel elements and other materials in which atoms bombarded with nuclear particles have undergone nuclear changes.

***isotope* —** Any of two or more variations of an element in which the nuclei have the same number of protons (i.e., the same atomic number), but different numbers of neutrons so that their atomic masses differ. Isotopes of a single element possess almost identical chemical properties, but often different physical properties. (e.g., carbon-12 and -13 are stable, while carbon-14 is radioactive).

***joule* —** A metric unit of energy, work, or heat, equivalent to one watt-second, 0.737 foot-pounds, or 0.239 calories.

***latent cancer fatalities* —** Deaths from cancer resulting from, and occurring some time after, exposure to ionizing radiation or other carcinogens.

***level of service* —** A quantitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.

***loam* —** A rich soil consisting of a mixture of sand and clay and decaying organic materials.

***low-income population* —** Low-income populations, defined in terms of U.S. Census Bureau annual statistical poverty levels (*Current Population Reports,* Series P-60 on Income and Poverty), may consist of groups or individuals who live in geographic proximity to one another or who are geographically dispersed or transient (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. (See *environmental justice* and *minority population*.)

***low-level radioactive waste* —** Radioactive waste that is not high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct tailings from processing of uranium or thorium ore. Low-level radioactive waste is generated in many physical and chemical forms and levels of contamination.

***low-slump concrete* —** A concrete mix that is stiffer and spreads less than a slump concrete when emplaced. Low-slump concrete contains less water than normal concrete.

***magnitude* —** A quantity characteristic of the total energy released by an earthquake that describes its effects at a particular place. Magnitude is determined by taking the common logarithm (base 10) of the largest ground motion recorded on a seismograph during the arrival of a seismic wave type and applying a standard correction factor for distance to the epicenter. Three common types of magnitude are Richter (or local) (ML), P body wave (mb), and surface wave (Ms).

Additional magnitude scales, notably the moment magnitude (Mw), have been introduced to increase uniformity in representation of earthquake size. *Moment magnitude* is defined as the rigidity of the rock multiplied by the area of faulting multiplied by the amount of slip.

A one-unit increase in magnitude (for example, from magnitude 6 to magnitude 7) represents a 30-fold increase in the amount of energy released.

material at risk (MAR) — the amount of radionuclides (in grams or curies of activity for each radionuclide) available to be acted on by a given physical stress. For facilities, processes, and activities, the MAR is a value representing some maximum quantity of radionuclide present or reasonably anticipated for the process or structure being analyzed. Different MARs may be assigned for different accidents as it is only necessary to define the material in those discrete physical locations that are exposed to a given stress. For example, a spill may involve only the contents of a tank in one glovebox. Conversely, a seismic event may involve all of the material in a building.

material control and accountability — The part of safeguards that detects or deters theft or diversion of nuclear materials and provides assurance that all nuclear materials are accounted for appropriately.

materials characterization — The measurement of basic material properties, and the change in those properties as a function of temperature, pressure, or other factors.

maximally exposed individual — A hypothetical individual whose location and habits result in the highest total radiological or chemical exposure (and thus dose) from a particular source for all exposure routes (e.g., inhalation, ingestion, direct exposure).

maximally exposed individual (transportation analysis) — A hypothetical individual receiving radiation doses from transporting radioactive materials on the road. For the incident-free transport operation, the maximally exposed individual would be an individual stuck in traffic next to the shipment for 30 minutes. For accident conditions, the maximally exposed individual is assumed to be an individual located approximately 33 meters (100 feet) directly downwind from the accident.

maximum contaminant level — The designation for U.S. Environmental Protection Agency (EPA) standards for drinking water quality under the Safe Drinking Water Act. The maximum contaminant level for a given substance is the maximum permissible concentration of that substance in water delivered by a public water system. Primary maximum contaminant levels (40 CFR Part 141) are intended to protect public health and are federally enforceable. They are based on health factors, but are also required by law to reflect the technological and economic feasibility of removing the contaminant from the water supply. Secondary maximum contaminant levels (40 CFR Part 143) are set by EPA to protect the public welfare. The secondary drinking water regulations control substances in drinking water that primarily affect aesthetic qualities (such as taste, odor, and color) relating to the public acceptance of water. These regulations are not federally enforceable, but are intended as guidelines for the states.

megawatt — A unit of power equal to 1 million watts. Megawatt-thermal is commonly used to define heat produced, while megawatt-electric defines electricity produced.

meteorology — The science dealing with the atmosphere and its phenomena, especially as it relates to weather.

micron — One-millionth of 1 meter.

migration — The natural movement of a material through the air, soil, or groundwater; also, seasonal movement of animals from one area to another.

millirem — One-thousandth of 1 rem (0.001 rem).

minority population — Minority refers to individuals who are members of the following population groups: American Indian or Alaska Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. "Minority populations" include either a single minority group or the total of all minority persons in the affected area. They may consist of groups of individuals living in geographic proximity to one another or a geographically dispersed/transient set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect. (See *environmental justice* and *low-income population*.)

mitigate — Mitigation includes: avoiding an impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of an action and its implementation; rectifying an impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of an action; or compensating for an impact by replacing or providing substitute resources or environments.

mixed waste — Waste that contains both hazardous waste, as defined under the Resource Conservation and Recovery Act, and source material, special nuclear material, or by-product material subject to the Atomic Energy Act.

Modified Mercalli Intensity — A level on the modified Mercalli scale. A measure of the perceived intensity of earthquake ground shaking with 12 divisions, from I (not felt by people) to XII (nearly total damage). It is a unitless expression of observed effects.

National Emission Standards for Hazardous Air Pollutants — Standards set by the U.S. Environmental Protection Agency for air pollutants that are not covered by the National Ambient Air Quality Standards and that may, at sufficiently high levels, cause increased fatalities, irreversible health effects, or incapacitating illness. These standards are given in 40 CFR Parts 61 and 63. National Emission Standards for Hazardous Air Pollutants are given for many specific categories of sources (e.g., equipment leaks, industrial process cooling towers, dry-cleaning facilities, petroleum refineries). (See *hazardous air pollutants*.)

National Pollutant Discharge Elimination System — A provision of the Clean Water Act that prohibits discharge of pollutants into waters of the United States unless a special permit is issued by the U.S. Environmental Protection Agency, a state, or, where delegated, a tribal government. The National Pollutant Discharge Elimination System permit lists either permissible discharges, the level of cleanup technology required for wastewater, or both.

National Register of Historic Places — The official list of the Nation's cultural resources that are worthy of preservation. The National Park Service maintains the list under direction of the Secretary of the Interior. Buildings, structures, objects, sites, and districts are included in the National Register for their importance in American history, architecture, archaeology, culture, or engineering. Properties included on the National Register range from large-scale, monumentally proportioned buildings to smaller-scale, regionally distinctive buildings. The listed properties are not just of nationwide importance; most are significant primarily at the state or local level. Procedures for listing properties on the National Register are found in 36 CFR Part 60.

neutron — An uncharged elementary particle with a mass slightly greater than that of the proton. Neutrons are found in the nucleus of every atom heavier than hydrogen-1.

nitrogen — A natural element with the atomic number 7. It is diatomic in nature and is a colorless and odorless gas that constitutes about four-fifths of the volume of the atmosphere.

***nitrogen oxides* —** Refers to the oxides of nitrogen, primarily nitrogen oxide and nitrogen dioxide. These are produced in the combustion of fossil fuels and can constitute an air pollution problem. Nitrogen dioxide emissions contribute to acid deposition and the formation of atmospheric ozone.

***noise* —** Undesirable sound that interferes or interacts negatively with the human or natural environment. Noise may disrupt normal activities (e.g., hearing, sleep), damage hearing, or diminish the quality of the environment.

***nonattainment area* —** An area that the U.S. Environmental Protection Agency has designated as not meeting (i.e., not being in attainment of) one or more of the National Ambient Air Quality Standards for sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter. An area may be in attainment for some pollutants, but not for others.

***nonplastic soils* —** Soils that are not clay-rich.

***nonproliferation* —** Preventing the spread of nuclear weapons, nuclear weapon materials, and nuclear weapon technology.

***normal operations* —** All normal (incident-free) conditions and those abnormal conditions that frequency estimation techniques indicate occur with a frequency greater than 0.1 events per year.

***Notice of Intent* —** The notice that an environmental impact statement (EIS) will be prepared and considered. The notice is intended to briefly describe the proposed action and possible alternatives; describe the agency's proposed scoping process including whether, when, and where any scoping meeting will be held; and state the name and address of a person within the agency who can answer questions about the proposed action and the EIS.

***nuclear weapon component* —** A part of a nuclear weapon that contains fissionable or fusionable material.

***nuclear criticality* —** See *criticality*.

***nuclear explosive* —** Any assembly containing fissionable and/or fusionable materials and main-charge high-explosive parts or propellants capable of producing a nuclear detonation.

***nuclear facility* —** A facility subject to requirements intended to control potential nuclear hazards. Defined in U.S. Department of Energy directives as any nuclear reactor or any other facility whose operations involve radioactive materials in such form and quantity that a significant nuclear hazard potentially exists for the employees or the general public.

***nuclear material* —** Composite term applied to: special nuclear material; source material such as uranium, thorium, or ores containing uranium or thorium; and byproduct material, which is any radioactive material that is made radioactive by exposure to the radiation incident or to the process of producing or using special nuclear material.

***nuclear weapon* —** The general name given to any weapon in which the explosion results from the energy released by reactions involving atomic nuclei, by fission, fusion, or both.

***nuclear weapons complex* —** The sites supporting the research, development, design, manufacture, testing, assessment, certification, and maintenance of the Nation's nuclear weapons and the subsequent dismantlement of retired weapons.

***nuclide* —** A species of atom characterized by the constitution of its nucleus and, hence, by the number of protons, the number of neutrons, and the energy content.

***Occupational Safety and Health Administration* —** The U.S. Federal Government agency that oversees and regulates workplace health and safety; created by the Occupational Safety and Health Act of 1970.

***offsite* —** The term denotes a location, facility, or activity occurring outside of the boundary of a U.S. Department of Energy complex site.

***onsite* —** The term denotes a location or activity occurring within the boundary of a U.S. Department of Energy complex site.

***outfall* —** The discharge point of a drain, sewer, or pipe as it empties into a body of water.

***ozone* —** The triatomic form of oxygen; in the stratosphere, ozone protects the Earth from the Sun's ultraviolet rays, but in lower levels of the atmosphere, ozone is considered an air pollutant.

***package* —** For radioactive materials, the packaging, together with its radioactive contents, as presented for transport (the packaging plus the radioactive contents equals the package).

***packaging* —** The assembly of components necessary to ensure compliance with Federal regulations. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks. The vehicle tie-down system and auxiliary equipment may be designated as part of the packaging.

***paleontological resources* —** The physical remains, impressions, or traces of plants or animals from a former geologic age; may be sources of information on ancient environments and the evolutionary development of plants and animals.

***paleoseismic* —** Pertaining to ancient seismic events.

***paleotopographic surface* —** The topographic surface of a given area in the geologic past.

***particulate matter (PM)* —** Any finely divided solid or liquid material, other than uncombined (i.e., pure) water. A subscript denotes the upper limit of the diameter of particles included. Thus, PM_{10} includes only those particles equal to or less than 10 micrometers (0.0004 inches) in diameter; $PM_{2.5}$ includes only those particles equal to or less than 2.5 micrometers (0.0001 inches) in diameter.

***peak ground acceleration* —** A measure of the maximum horizontal acceleration (as a percentage of the acceleration due to the Earth's gravity) experienced by a particle on the surface of the Earth during the course of earthquake motion.

***peak hour traffic* —** The volume of traffic anticipated to occur in the 30th highest traffic hour of the year; used by engineers to determine the level of service.

***perched groundwater* —** A body of groundwater of small lateral dimensions separated from an underlying body of groundwater by an unsaturated zone.

***Permian* —** The final geologic time period of the Paleozoic era, spanning between about 286 and 245 million years ago.

***permeability* —** In geology, the ability of rock or soil to transmit a fluid.

***perennial stream* —** A stream that flows throughout the year.

***person-rem* —** A unit of collective radiation dose applied to populations or groups of individuals (see *collective dose*); that is, a unit for expressing the dose when summed across all persons in a specified population or group. One person-rem equals 0.01 person-sieverts.

***physiographic province* —** A geographic region with a specific geomorphology and often specific subsurface rock type or structural elements.

***pit* —** The core element of a nuclear weapons primary or fission component. The pit contains a potentially critical mass of fissile material, such as plutonium-239 or highly enriched uranium, arranged in a subcritical geometry and surrounded by some type of casing.

***plume* —** The elongated volume of contaminated water or air originating at a pollutant source such as an outlet pipe or a smokestack. A plume eventually diffuses into a larger volume of less-contaminated material as it is transported away from the source.

***plutonium* —** A heavy, radioactive, metallic element with the atomic number 94. It is produced artificially by neutron irradiation of uranium. Plutonium has 15 isotopes with atomic masses ranging from 232 to 246 and half-lives from 20 minutes to 76 million years. Its most important isotope is fissile plutonium – plutonium-239.

***plutonium-239* —** An isotope of plutonium with a half-life of 24,110 years that is the primary radionuclide in weapons-grade plutonium. When plutonium-239 decays, it emits alpha particles.

***P.M. peak hour* —** The highest design hour of traffic on a roadway in the afternoon (P.M.) hours. P.M. hours are typically between 4 P.M. and 6 P.M.

***population dose* —** See *collective dose*.

***prehistoric resources* —** The physical remains of human activities that predate written records; they generally consist of artifacts that may alone or collectively yield otherwise inaccessible information about the past.

***Prevention of Significant Deterioration (PSD)* —** Regulations established to prevent significant deterioration of air quality in areas that already meet National Ambient Air Quality Standards. Specific details of PSD are found in 40 CFR 51.166. Among other provisions, cumulative increases in sulfur dioxide, nitrogen dioxide, and PM_{10} levels after specified baseline dates must not exceed specified maximum allowable amounts. These allowable increases, also known as increments, are especially stringent in areas designated as Class I areas (e.g., national parks, wilderness areas) where the preservation of clean air is particularly important. All areas not designated as Class I are currently designated as Class II. Maximum increments in pollutant levels are also given in 40 CFR 51.166 for Class III areas, if any such areas should be so designated by the U.S. Environmental Protection Agency. Class III increments are less stringent than those for Class I or Class II areas.

***probabilistic risk* —** A comprehensive, logical, and structured methodology that accounts for population dynamics and human activity patterns at various levels of sophistication, considering time-space distributions and sensitive subpopulations. The probabilistic method results in a more complete characterization of the exposure information available, which is defined by probability distribution functions. This approach offers the possibility of an associated quantitative measure of the uncertainty around the value of interest.

***process* —** Any method or technique designed to change the physical or chemical character of the product.

***Quaternary* —** The second geologic time period of the Cenozoic era, dating from about 1.6 million years ago to the present. It contains two epochs: the Pleistocene and the Holocene. It is characterized by the first appearance of human beings on Earth.

***radiation (ionizing)* —** Particles (alpha, beta, neutrons, and other subatomic particles) or photons (i.e., gamma, x-rays) emitted from the nucleus of unstable atoms as a result of radioactive decay. Such radiation is capable of displacing electrons from atoms or molecules in the target material (such as biological tissues), thereby producing ions.

***radioactive waste* —** In general, waste that is managed for its radioactive content. Waste material that contains source, special nuclear, or byproduct material is subject to regulation as radioactive waste under the Atomic Energy Act. Also, waste material that contains accelerator-produced radioactive material or a high concentration of naturally occurring radioactive material may be considered radioactive waste.

***radioactivity* —**

> *Defined as a process:* The spontaneous transformation of unstable atomic nuclei, usually accompanied by the emission of ionizing radiation.
>
> *Defined as a property:* The property of unstable nuclei in certain atoms to spontaneously emit ionizing radiation during nuclear transformations.

***radioisotope or radionuclide* —** An unstable isotope that undergoes spontaneous transformation, emitting radiation. (See *isotope*.)

***radon* —** A gaseous, radioactive element with the atomic number 86, resulting from the radioactive decay of radium. Radon occurs naturally in the environment and can collect in unventilated enclosed areas, such as basements. Large concentrations of radon can cause lung cancer in humans.

***Record of Decision (ROD)* —** A concise public document that records a Federal agency's decision(s) concerning a proposed action for which the agency has prepared an environmental impact statement. The ROD is prepared in accordance with the requirements of the Council on Environmental Quality National Environmental Policy Act regulations (40 CFR 1505.2). A ROD identifies the alternatives considered in reaching the decision, the environmentally preferable alternative(s), factors balanced by the agency in making the decision, whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why they were not. (See *environmental impact statement*.)

***region of influence (ROI)* —** A site-specific geographic area in which the principal direct and indirect effects of actions are likely to occur and are expected to be of consequence for local jurisdictions.

rem (roentgen equivalent man) — A unit of dose equivalent. The dose equivalent in rem equals the absorbed dose in rad in tissue multiplied by the appropriate quality factor and possibly other modifying factors. Derived from "roentgen equivalent man," referring to the dosage of ionizing radiation that will cause the same biological effect as 1 roentgen of x-ray or gamma-ray exposure. One rem equals 0.01 sievert. (See *dose equivalent*.)

remediation — The process, or a phase in the process, of rendering radioactive, hazardous, or mixed waste environmentally safe, whether through processing, entombment, or other methods.

remote-handled waste — In general, refers to radioactive waste that must be handled at a distance to protect workers from unnecessary exposure (waste with a dose rate of 200 millirem per hour or more at the surface of the waste package). (See *contact-handled waste*.)

right-sizing — Facility modification, rearrangement, and refurbishment necessary to size future weapon manufacturing facilities appropriately for the workload to be accomplished. In general, right-sizing involves reduction in the size of facilities, but not in their capabilities. Right-sizing is not driven by assumptions about future U.S. Department of Energy budget levels, but rather by the need to size facilities at the level necessary for long-term workload accomplishment.

riparian — Of, on, or relating to the banks of a natural course of water.

risk — The probability of a detrimental effect from exposure to a hazard. To describe impacts, risk is often expressed quantitatively as the probability of an adverse event occurring multiplied by the consequence of that event (i.e., the product of these two factors). However, a separate presentation of probability and consequence to describe impacts is often more informative.

roadway capacity — The maximum sustainable flow rate at which vehicles reasonably can be expected to traverse a section of roadway.

runoff — The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and eventually enters streams.

safeguards — An integrated system of physical protection, material accounting, and material control measures designed to deter, prevent, detect, and respond to unauthorized access, possession, use, or sabotage of nuclear materials.

safety analysis report — A report that systematically identifies potential hazards within a nuclear facility, describes and analyzes the adequacy of measures to eliminate or control identified hazards, and analyzes potential accidents and their associated risks. Safety analysis reports are used to ensure that a nuclear facility can be constructed, operated, maintained, shut down, and decommissioned safely and in compliance with applicable laws and regulations. Safety analysis reports are required for U.S. Department of Energy (DOE) nuclear facilities and as a part of applications for U.S. Nuclear Regulatory Commission (NRC) licenses. The NRC regulations or DOE orders and technical standards that apply to the facility type provide specific requirements for the content of safety analysis reports. (See *nuclear facility*.)

sanitary waste — Waste generated by normal housekeeping activities, liquid or solid (includes sludge), that are not hazardous or radioactive.

scope — In a document prepared pursuant to the National Environmental Policy Act, the range of actions, alternatives, and impacts to be considered.

***scoping* —** An early and open process for determining the scope of issues and alternatives to be addressed in an environmental impact statement (EIS) (or other National Environmental Policy Act [NEPA] documents) and for identifying the significant issues related to a proposed action. The scoping period begins after publication in the *Federal Register* of a Notice of Intent to prepare an EIS (or other NEPA document). The public scoping process is that portion of the process where the public is invited to participate. The U.S. Department of Energy (DOE) also conducts an early internal scoping process for environmental assessments or EISs (and supplemental environmental impact statements [SEISs]). For EISs and SEISs, this internal scoping process precedes the public scoping process. DOE's scoping procedures are found in 10 CFR 1021.311.

***security* —** An integrated system of activities, systems, programs, facilities, and policies for the protection of restricted data and other classified information or matter, nuclear materials, nuclear weapons and nuclear weapons components, and/or U.S. Department of Energy contractor facilities, property, and equipment.

security category — The U.S. Department of Energy uses a cost-effective, graded approach to providing special nuclear materials safeguards and security. Quantities of special nuclear materials are categorized as Security Category I, II, III, or IV, with the greatest quantities included under Security Category I and lesser quantities included in descending order under Security Categories II through IV. Types and compositions of special nuclear materials are further categorized by their "attractiveness" to saboteurs using an alphabetical system. Materials that are most attractive for conversion into nuclear explosive devices are identified by the letter "A." Less attractive materials are designated progressively by the letters "B" through "E."

***seismic* —** of, subject to, or caused by an earth vibration resulting from an earthquake or an explosion.

***seismic moment* —** A quantity used by earthquake seismologists to measure the size of an earthquake.

***seismic wave velocity* —** The speed at which waves of energy travel through the Earth.

***seismicity* —** The relative frequency and distribution of earthquakes.

***severe accident* —** An accident with a frequency of less than 10^{-6} per year that would have more-severe consequences than a design-basis accident in terms of damage to the facility, offsite consequences, or both.

***shielding* —** In regard to radiation, any material of obstruction (e.g., bulkheads, walls, or other construction) that absorbs radiation to protect personnel or equipment.

***shutdown* —** For a U.S. Department of Energy (DOE) reactor, the condition in which a reactor has ceased operations, and DOE has officially declared that it does not intend to operate it further.

***sievert* —** The SI (International System of Units) unit of radiation dose equivalent. The dose equivalent in sieverts equals the absorbed dose in grays multiplied by the appropriate quality factor (1 sievert = 100 rem). (See *rem*.)

***silica gel* —** An amorphous, highly adsorbent form of silicon dioxide.

***soil cohesion* —** The ability of soil molecules to bind together.

***soil compressibility* —** Used in the earth sciences to quantify the ability of a soil or rock to reduce in volume with applied pressure.

***soils* —** All unconsolidated materials above bedrock. Natural earthy materials on the Earth's surface, in places modified or even made by human activity, containing living matter, and supporting or capable of supporting plants out of doors.

***source material* —** In general, material from which special nuclear material can be derived. Under the Atomic Energy Act and U.S. Nuclear Regulatory Commission regulations, source material means uranium and thorium in any physical or chemical form, as well as ores that contain one-twentieth of 1 percent (0.05 percent) or more by weight of uranium or thorium. (See *special nuclear material*.)

***special nuclear material(s)* —** A category of material subject to regulation under the Atomic Energy Act, consisting primarily of fissile materials. It is defined to mean plutonium, uranium-233, uranium enriched in the isotopes of uranium-233 or -235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material, but it does not include source material.

***spectral (response) acceleration* —** An approximate measure of the acceleration (as a percentage of the acceleration due to Earth's gravity) experienced by a building, as modeled by a particle on a massless vertical rod having the same natural period of vibration as the building.

***spoils* —** The soil and rock (uncontaminated) removed from an excavation. If excavated material is contaminated with chemical or radioactive constituents, it is managed as waste.

***staging* —** The process of using several layers to achieve a combined effect greater than that of one layer.

***stockpile* —** The inventory of active nuclear weapons for the strategic defense of the United States.

***stockpile stewardship program* —** A program that ensures the operational readiness (i.e., safety and reliability) of the U.S. nuclear weapons stockpile through the appropriate balance of surveillance, experiments, and simulations.

***sulfur oxides* —** Common air pollutants, primarily sulfur dioxide, a heavy, pungent, colorless gas (formed in the combustion of fossil fuels, considered a major air pollutant), and sulfur trioxide. Sulfur dioxide is involved in the formation of acid rain. It can also irritate the upper respiratory tract and cause lung damage.

***surface water* —** All bodies of water on the surface of the Earth and open to the atmosphere, such as rivers, lakes, reservoirs, ponds, seas, and estuaries.

***sustainable development* —** The incorporation of concepts and principles in the development of the built environment that are responsive (not harmful) to the environment, use materials and resources efficiently, and are sensitive to surrounding communities. Sustainable development and design encompasses the materials to build and maintain a building, the energy and water needed to operate the building, and the ability to provide a healthy and productive environment for occupants of the building.

sustainable buildings *(or high-performance buildings)* — buildings designed and built to minimize resource consumption, reduce life cycle costs, and maximize health and environmental performance across a wide range of measures – from indoor air quality to habitat protection.

***threat* —** (1) A person, group, or movement with intentions to use extant or attainable capabilities to undertake malevolent actions against U.S. Department of Energy interests; (2) the capability of an adversary coupled with his intentions to undertake any actions detrimental to the success of program activities or operation.

***threatened species* —** Any plants or animals likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges and which have been listed as threatened by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service following the procedures set in the Endangered Species Act and its implementing regulations (50 CFR Part 424). (See *endangered species*.)

***total effective dose equivalent* —** The sum of the effective dose equivalent from external exposures and the committed effective dose equivalent from internal exposures.

***transuranic* —** Refers to any element whose atomic number is higher than that of uranium (atomic number 92), including neptunium, plutonium, americium, and curium. All transuranic elements are produced artificially and are radioactive.

***transuranic waste* —** Radioactive waste not classified as high-level radioactive waste and that contains more than 100 nanocuries (3,700 becquerels) per gram of alpha-emitting transuranic isotopes with half-lives greater than 20 years.

trip or ***trip end* —** A single or one-directional vehicle movement.

***tuff* —** A fine-grained rock composed of ash or other material formed by volcanic explosion or aerial expulsion from a volcanic vent.

***Type B packaging* —** A regulatory category of packaging for transportation of radioactive material. The U.S. Department of Transportation and U.S. Nuclear Regulatory Commission (NRC) require Type B packaging for shipping highly radioactive material. Type B packages must be designed and demonstrated to retain their containment and shielding integrity under severe accident conditions, as well as under the normal conditions of transport. The current NRC testing criteria for Type B packaging designs (10 CFR Part 71) are intended to simulate severe accident conditions, including impact, puncture, fire, and immersion in water. The most widely recognized Type B packages are the massive casks used for transporting spent nuclear fuel. Large-capacity cranes and mechanical lifting equipment are usually needed to handle Type B packages.

***uniform hazard response spectra (UHRS)* —** Response spectra derived so that the annual probability of exceeding the spectral quantity (acceleration, displacement, etc.) is the same for any spectral frequency. Determined in accordance with ANSI/ANS 2.27 and 2.29.

***uranium* —** A radioactive, metallic element with the atomic number 92; the heaviest naturally occurring element. Uranium has 14 known isotopes, of which uranium-238 is the most abundant in nature. Uranium-235 is commonly used as a fuel for nuclear fission. (See *enriched uranium*, *highly enriched uranium*, and *depleted uranium*.)

***U.S. Nuclear Regulatory Commission (NRC)* —** The Federal agency that regulates the civilian nuclear power industry in the United States.

***vault (special nuclear material)* —** A penetration-resistant, windowless enclosure with an intrusion alarm system activated by opening the door; walls, a floor, and a ceiling substantially constructed of materials that afford forced-penetration resistance at least equivalent to that of 20-centimeter- (8-inch-) thick reinforced concrete; and a built-in combination-locked steel door, which for existing structures is at least 2.54 centimeters (1 inch) thick exclusive of bolt work and locking devices, and which for new structures meets standards set forth in Federal specifications and standards.

***viewshed* —** The extent of an area that may be viewed from a particular location. Viewsheds are generally bounded by topographic features such as hills or mountains.

***vital area* —** A type of U.S. Department of Energy security area that is located within the Protected Area and that has a separate perimeter and access controls to afford layered protection, including intrusion detection, for vital equipment.

***Visual Resource Management class* —** Any of the classifications of visual resources established through application of the Visual Resources Management process of the U.S. Bureau of Land Management. Four classifications are employed to describe different degrees of modification to landscape elements: Class I areas where the natural landscape is preserved, including national wilderness areas and the wild sections of national wild and scenic rivers; Class II areas with very limited land development activity, resulting in visual contrasts that are seen but do not attract attention; Class III areas, in which development may attract attention, but the natural landscape still dominates; and Class IV areas, in which development activities may dominate the view and may be the major focus in the landscape.

***volatile organic compounds* —** A broad range of organic compounds, often halogenated, that vaporize at ambient or relatively low temperatures (e.g., benzene, chloroform, and methyl alcohol). In regard to air and water pollution, any organic compound that participates in atmospheric photochemical reaction, except for those designated by the Administrator of the U.S. Environmental Protection Agency as having negligible photochemical reactivity.

***waste management* —** The planning, coordination, and direction of those functions related to the generation, handling, treatment, storage, transport, and disposal of waste, as well as associated surveillance and maintenance activities.

***waste minimization and pollution prevention* —** An action that economically avoids or reduces the generation of waste and pollution by source reduction, reducing the toxicity of hazardous waste and pollution, improving energy use, or recycling. These actions are consistent with the general goal of minimizing present and future threats to human health, safety, and the environment.

***watt* —** A unit of power equal to 1 joule per second. (See *joule*.)

***welded tuff* —** a tuff that was sufficiently hot at the time of deposition to weld together (see *tuff*).

***wetland* —** Those areas that are inundated by surface or groundwater with a frequency sufficient to support, and that, under normal circumstances, do or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas (e.g., sloughs, potholes, wet meadows, river overflow areas, mudflats, natural ponds).

***yield* —** The force, in tons of TNT [2,4,6-trinitrotoluene], of a nuclear or thermonuclear explosion.

CHAPTER 7
REFERENCES

7 REFERENCES

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CHAPTER 8
LIST OF PREPARERS

8 LIST OF PREPARERS

This *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* was prepared by the U.S. Department of Energy. The organizations and individuals listed below contributed to the overall effort in the preparation of this document.

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SEIS RESPONSIBILITIES: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENT MANAGER

Education: M.S., Civil Engineering, New Mexico State University
B.S., Civil Engineering, New Mexico State University

Experience/Technical Specialty:
Thirty-three years. Facility planning, construction and project management, waste management, and nuclear safety specialist.

ELIZABETH WITHERS, U.S. DEPARTMENT OF ENERGY, NATIONAL NUCLEAR SECURITY ADMINISTRATION, ALBUQUERQUE SERVICE CENTER
SEIS RESPONSIBILITIES: DEPUTY NEPA DOCUMENT MANAGER

Education: M.S., Life Sciences, Louisiana Tech University
B.S., Botany, Louisiana Tech University

Experience/Technical Specialty:
Twenty-seven years. Environmental investigations and NEPA compliance.

KIRK OWENS, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: PROJECT MANAGER

Education: B.S., Environmental Resource Management, The Pennsylvania State University

Experience/Technical Specialty:
Thirty-three years. Radioactive waste management, regulatory analysis, environmental compliance and assessment, and radiological impacts assessment.

KAREN ANTIZZO, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: APPLICABLE LAWS, REGULATIONS, AND OTHER REQUIREMENTS; SITE INFRASTRUCTURE; AND RESOURCE COMMITMENTS

Education: M.S., Environmental Management, University of Maryland
B.S., Education, Towson State University

Experience/Technical Specialty:
Eighteen years. Infrastructure, radioactive waste management, regulatory review, and public participation.

ALYSIA BAUMANN, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: AIR QUALITY AND NOISE

Education: B.S., Chemical Engineering with an Interdisciplinary Study in Biomedical Engineering, Colorado State University

Experience/Technical Specialty:
Seven years. Air quality and noise analysis and modeling, solid waste, utilities, and hazardous materials/wastes issues and analyses.

HANA BINDER, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: TECHNICAL EDITOR

Education: B.A., Journalism, University of Oregon

Experience/Technical Specialty:
Four years. Technical writing and editing.

TERRI BINDER, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: LEAD - ENVIRONMENTAL CONSEQUENCES

Education: M.A., Organizational Learning and Instructional Technology, University of New Mexico
B.A., Mathematics, University of California, Los Angeles

Experience/Technical Specialty:
Nineteen years. Radiological facility site-specific training, U.S. Department of Energy compliance, and computer programming.

KAREN BULL, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: WATER RESOURCES

Education: Professional Designation in Business Management, University of California, Los Angeles Extension
B.A., Aquatic Biology, University of California

Experience/Technical Specialty:
Twenty-five years. NEPA analysis and compliance, water resources, and environmental regulatory compliance.

MICHAEL DEACON, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: COMMENT RESPONSE

Education: B.S., Environmental Studies, Utah State University
B.S., Environmental Health, East Tennessee State University

Experience/Technical Specialty:
Twenty years. Environmental compliance, environmental sampling and analysis, and natural resource surveys and evaluations.

JOHN DIMARZIO, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: COMMENT RESPONSE

Education: M.S., Geology, George Washington University
B.S., Geology, University of Maryland

Experience/Technical Specialty:
Twenty-six years. Project management, NEPA compliance, geology, water resources, waste management, and cumulative impacts.

SHARAY DIXON, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: CUMULATIVE IMPACTS AND COMMENT RESPONSE

Education: B.S., Environmental Management, University of Maryland University College
A.S., Applied Science, Weather Technology

Experience/Technical Specialty:
Twelve years. Air quality modeling, meteorological forecasting, meteorological data analysis, NEPA compliance, and quality assurance.

JOHN EICHNER, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: DEPUTY PROJECT MANAGER, LEAD - PROJECT DESCRIPTION AND ALTERNATIVES, CUMULATIVE IMPACTS, SITE INFRASTRUCTURE, SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, RESOURCE MANAGEMENT

Education: B.S., Accounting, Syracuse University
B.S., Finance, Syracuse University

Experience/Technical Specialty:
Twenty-eight years. Project management, impact analysis, socioeconomics, and cost-benefit analyses.

DANIEL W. GALLAGHER, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: HUMAN HEALTH IMPACTS

Education: M.E., Nuclear Engineering, Rensselaer Polytechnic Institute
B.S., Nuclear Engineering, Rensselaer Polytechnic Institute

Experience/Technical Specialty:
Thirty-one years. Nuclear risk analysis.

SUSAN GOODAN, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: LEED CONSTRUCTION

Education: Master of Architecture, University of New Mexico
B.A., Ethics/Archaeology, University of Cape Town, South Africa

Experience/Technical Specialty:
Twenty-one years. Project manager and environmental planner.

MILTON GORDEN, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: COMMENT RESPONSE

Education: B.S., Nuclear Engineering, North Carolina State University

Experience/Technical Specialty:
Twenty years. Waste management, transportation, human health impacts, socioeconomics, and environmental remediation technologies.

HEATHER GORDON, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: GIS SUPPORT

Education: M.S., Geography, University of New Mexico
B.A., Environmental Studies and Planning, Sonoma State University

Experience/Technical Specialty:
Twelve years. GIS (geographic information system) support.

CHADI D. GROOME, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: COMMENT RESPONSE

Education: M.S., Environmental Engineering Sciences, University of Florida
B.S., Zoology, Clemson University

Experience/Technical Specialty:
Twenty-eight years. Environmental, NEPA, and nuclear regulatory compliance, permitting, and licensing; NPDES permitting; radioactive and hazardous waste management.

MARK GROSSENBACHER, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: TRANSPORTATION AND TRAFFIC ANALYSIS

Education: B.S., Civil Engineering, University of Missouri at Rolla

Experience/Technical Specialty:
Twenty-seven years. Transportation planning and traffic engineering.

AMANDA HANSEN, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: AIR QUALITY AND NOISE

Education: Ph.D., Meteorology, Florida State University
M.S., Meteorology, Florida State University
B.S., Marine Science, Florida State University

Experience/Technical Specialty:
Eight years. Air quality and monitoring.

NICOLE HARDEN, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: AFFECTED ENVIRONMENT, ECOLOGICAL RESOURCES

Education: B.S., Biology, Indiana University

Experience/Technical Specialty:
One year. Ecological resources and affected environment.

ROBERT HULL, LOS ALAMOS TECHNICAL ASSOCIATES, INC.
SEIS RESPONSIBILITIES: ALTERNATIVES, SITE TECHNICAL LIAISON

Education: Doctoral Studies, Civil Engineering, Stanford University
M.S., Civil Engineering, Stanford University
M.S., Geochemistry and Environmental Geology, Florida State University
B.S., Geology, Florida State University

Experience/Technical Specialty:
Thirty-seven years. Environmental impacts assessments, environmental baseline surveys, human health risk assessment, and environmental remediation.

ROY KARIMI, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: TRANSPORTATION AND TRAFFIC, HUMAN HEALTH IMPACTS

Education: Sc.D., Nuclear Engineering, Massachusetts Institute of Technology
N.E., Nuclear Engineering, Massachusetts Institute of Technology
M.S. Nuclear Engineering, Massachusetts Institute of Technology
B.S., Chemical Engineering, Abadan Institute of Technology

Experience/Technical Specialty:
Thirty years. Nuclear power plant safety, risk and reliability analysis, design analysis, criticality analysis, accident analysis, consequence analysis, spent fuel dry storage safety analysis, and probabilistic risk assessment.

MATTHEW MIELKE, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: COMMENT RESPONSE

Education: B.S., Environmental Science and Policy, University of Maryland, College Park

Experience/Technical Specialty:
One year. Groundwater modeling and technical writing.

BRIAN MINICHINO, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: LEAD - METHODOLOGY, RESOURCE COMMITMENTS, DATA AND QUALITY MANAGEMENT

Education: B.S., Chemistry, Virginia Polytechnic Institute and State University

Experience/Technical Specialty:
Two years. Quality assurance/quality control and technical writing.

STEVE MIXON, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: TECHNICAL EDITOR

Education: B.S., Communications, University of Tennessee

Experience/Technical Specialty:
Twenty-one years. Program analyst, technical writer and editor, speechwriter, and publications specialist.

DOUGLAS OUTLAW, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: HUMAN HEALTH IMPACTS

Education: Ph.D., Nuclear Physics, North Carolina State University
M.S., Nuclear Physics, North Carolina State University
B.S., Physics, North Carolina State University

Experience/Technical Specialty:
Thirty-three years. Nuclear physics, safety analysis, and risk assessment.

GARY ROLES, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: WASTE MANAGEMENT AND POLLUTION PREVENTION

Education: M.S., Nuclear Engineering, University of Arizona
B.S., Mechanical Engineering, Arizona State University

Experience/Technical Specialty:
Thirty-one years. Radioactive waste management, regulatory and compliance analysis, and NEPA analysis.

PERRY RUSSELL, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: GEOLOGY AND SOILS

Education: M.S., Geological Sciences, California State University
B.A., Geological Sciences, University of California

Experience/Technical Specialty:
Twenty-four years. Professional Geologist/hydrogeologist. Geology, water resources, hazardous materials, and public safety.

SEAN SCHATZEL, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Education: B.A., Political Economics/Public Administration, Bloomsburg University

Experience/Technical Specialty:
Four years. Socioeconomics and environmental justice.

JAMES SCHINNER, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: LEAD - AFFECTED ENVIRONMENT, LAND USE, VISUAL RESOURCES, ECOLOGICAL RESOURCES, CULTURAL AND PALEONTOLOGICAL RESOURCES

Education: Ph.D., Wildlife Management, Michigan State University
M.S., Zoology, University of Cincinnati
B.S., Zoology, University of Cincinnati

Experience/Technical Specialty:
Thirty-eight years. Ecological field assessments, NEPA documentation, and regulatory reviews.

ALISON SMITH-CHURCHILL, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: TECHNICAL EDITOR

Education: B.A., English Language and Literature, University of Maryland, College Park

Experience/Technical Specialty:
Four years. NEPA document preparation.

MIKE SMITH, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: TRANSPORTATION AND TRAFFIC

Education: J.D., Doctor of Jurisprudence, West Virginia University
M.S., Civil Engineering, University of Missouri
B.S., Engineering of Mines, West Virginia University

Experience/Technical Specialty:
Twenty-nine years. Professional engineer. Transportation engineering support and remedial/environmental design.

ELLEN TAYLOR, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: LEAD – INTRODUCTION AND PURPOSE AND NEED FOR AGENCY ACTION, PROJECT DESCRIPTION AND ALTERNATIVES, MITIGATION MEASURES

Education: Ph.D., Biology, University of Pennsylvania
B.A., Zoology, University of Vermont

Experience/Technical Specialty:
Twenty-seven years. Environmental compliance and NEPA assessments.

JOHN W. WILLIAMS, SCIENCE APPLICATIONS INTERNATIONAL CORPORATION
SEIS RESPONSIBILITIES: PROJECT DEVELOPMENT AND ANALYSIS

Education: Ph.D., Physics, New Mexico State University
M.S., Physics, New Mexico State University
B.S., Mathematics, North Texas State University

Experience/Technical Specialty:
Thirty years. Geographical information systems and demographics.

CHAPTER 9
DISTRIBUTION LIST

9 DISTRIBUTION LIST

The U.S. Department of Energy provided copies of the *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* to Federal, State, and local elected and appointed government officials and agencies; Native American representatives; national, state, and local environmental and public interest groups; and other organizations and individuals as listed. Approximately 100 copies of the complete *CMRR-NF SEIS*, 150 copies of the Summary of the *CMRR-NF SEIS*, and 550 CDs of the *CMRR-NF SEIS* were sent to interested parties. Copies will be provided to others on request.

United States Congress

U.S. Senate – New Mexico

The Honorable Jeff Bingaman
The Honorable Tom Udall

U.S. Senate Committees

Committee on Appropriations
The Honorable Daniel K. Inouye, Chairman
The Honorable Thad Cochran, Vice Chairman

Committee on Appropriations, Subcommittee on Energy and Water Development
The Honorable Dianne Feinstein, Chairman
The Honorable Lamar Alexander, Ranking Member

Committee on Armed Services
The Honorable Carl Levin, Chairman
The Honorable John S. McCain, Ranking Member

Committee on Armed Forces, Subcommittee on Strategic Forces
The Honorable Ben Nelson, Chairman
The Honorable Jeff Sessions, Ranking Member

Committee on Energy and Natural Resources
The Honorable Jeff Bingaman, Chairman
The Honorable Lisa Murkowski, Ranking Member

Committee on Energy and Natural Resources, Subcommittee on Energy
The Honorable Maria Cantwell, Chairman
The Honorable James E. Risch, Ranking Member

Committee on Environment and Public Works
The Honorable Barbara Boxer, Chairman
The Honorable James M. Inhofe, Ranking Member

Committee on Environment and Public Works, Subcommittee on Clean Air and Nuclear Safety
The Honorable Thomas R. Carper, Chairman
The Honorable John Barrasso, Ranking Member

U.S. House of Representatives – New Mexico

The Honorable Martin T. Heinrich, District 1
The Honorable Steve Pearce, District 2
The Honorable Ben Ray Lujan, District 3

U.S. House of Representatives Committees

Committee on Appropriations
The Honorable Harold Rogers, Chairman
The Honorable Norman Dicks, Ranking Member

Committee on Appropriations, Subcommittee on Energy and Water Development
The Honorable Rodney P. Frelinghuysen, Chairman
The Honorable Peter J. Visclosky, Ranking Member

Committee on Armed Services
The Honorable Howard P. McKeon, Chairman
The Honorable Adam Smith, Ranking Member

Committee on Armed Services, Subcommittee on Strategic Forces
The Honorable Michael R. Turner, Chairman
The Honorable Loretta Sanchez, Ranking Member

Committee on Energy and Commerce
The Honorable Fred Upton, Chairman
The Honorable Henry A. Waxman, Ranking Member

Committee on Energy and Commerce, Subcommittee on Energy and Power
The Honorable Ed Whitfield, Chairman
The Honorable Bobby L. Rush, Ranking Member

Committee on Energy and Commerce, Subcommittee on Environment and the Economy
The Honorable John Shimkus, Chairman
The Honorable Gene Green, Ranking Member

Committee on Science, Space, and Technology
The Honorable Ralph M. Hall, Chairman
The Honorable Eddie Bernice Johnson, Ranking Member

Committee on Science, Space, and Technology, Subcommittee on Energy and Environment
The Honorable Andy Harris, Chairman
The Honorable Brad Miller, Ranking Member

Federal Agencies

Bandelier National Monument
National Park Service
Santa Fe National Forest
U.S. Army Corps of Engineers
U.S. Department of Justice
U.S. Department of the Air Force
U.S. Department of the Army
U.S. Department of the Interior
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

State Government

New Mexico State Government

Governor
Susana Martinez

Senators
Eric G. Griego
Lynda M. Lovejoy
Richard C. Martinez
John Pinto

Representatives
Rhonda S. King
Ben B. Lujan
Patricia A. Lundstrom
Alfred Park
Debbie A. Rodella
Henry Saavedra
Nick L. Salazar
Jim W. Hall
James P. White

State NEPA Points of Contact

F. David Martin, New Mexico Environment Department

State Agencies

New Mexico Department of Homeland Security and Emergency Management
Michael S. Duvall, Cabinet Secretary

New Mexico Economic Development Department
Jon Barela, Cabinet Secretary Designee
Steve Gonzales, Community Development, Team Leader – Region 2

New Mexico Energy, Minerals, and Natural Resources Department
John H. Bemis, Cabinet Secretary – Designate
Stewart Liley

New Mexico Environment Department
Bill Bartels, Environmental Scientist, DOE Oversight Bureau
Eric Galloway, Hydrologist, DOE Oversight Bureau
John Kieling, Acting Chief, Hazardous Waste Bureau
Thomas Skibitski, Bureau Chief, DOE Oversight Bureau
Butch Tongate, Acting Deputy Secretary
Steve Yanicak, Staff Manager, DOE Oversight Bureau

Local Government

Alice Lucero, Mayor, Espanola
Randy M. Autio, Acting County Administrator, County of Los Alamos
Martha Perkins, Senior Planner, County of Los Alamos
Sharon Stover, County Council Chair, County of Los Alamos
Cathy McAnally, Secretary to the Superintendent, Los Alamos Public Schools
Gene Schmidt, Superintendent, Los Alamos Public Schools
Tomas Campos, III, County Manager, Rio Arriba County
Joan May, Chair, San Miguel County Board of Commissioners
David Coss, Mayor, Santa Fe
Virginia Vigil, Chair, Santa Fe Board of County Commissioners
Alex Puglisi, Environmental Compliance Specialist, Public Utilities Department, City of Santa Fe
Katherine Miller, County Manager, Santa Fe County
Darren M. Cordova, Mayor, Taos
Larry Sanchez, County Commissioner, Taos
Renee Lucero, Town Clerk, Taos

Citizens Advisory Board

Menice S. Manzanares, Executive Director, Northern New Mexico Citizens Advisory Board

Native American Representatives

Neil Weber, Director, Department of Environmental and Cultural Preservation, Pueblo of San Ildefonso
Michael Miller, Director, Eight Northern Indian Pueblo Council
Mark Chino, President, Mescalero Apache Tribe
Holly Houghten, Tribal Historic Preservation Officer, Mescalero Apache Tribe
Randall Vicente, Governor, Pueblo of Acoma
Jacob Pecos, Environmental Director, Pueblo of Cochiti
Robert B. Pecos, Governor, Pueblo of Cochiti
Michael Toledo, Governor, Pueblo of Jemez
Greg Kaufman, Resource Protection Officer, Pueblo of Jemez
Perry Martinez, Governor, Pueblo of San Ildefonso
Paul Baca, Pueblo of Santa Clara
Joseph M. Chavarria, Environmental Director, Pueblo of Santa Clara
Walter Dasheno, Governor, Pueblo of Santa Clara

Public Reading Rooms and Libraries

A complete copy of the *CMRR-NF SEIS* and references may be reviewed at any of the reading rooms and libraries listed below.

Espanola Public Library
313 North Paseo de Onate
Espanola, NM 87532
(505) 747-6087

DOE Public Reading Room
Government Information Department
Zimmerman Library
1 University of New Mexico
Albuquerque, NM 87131
(505) 277-7180

Los Alamos National Laboratory
Research Library
TA-3-207
Los Alamos, NM 87545
(505) 667-0216

Mesa Public Library
2400 Central Avenue
Los Alamos, NM 87544
(505) 662-8240

New Mexico State Library
1209 Camino Carlos Rey
Santa Fe, NM 87507
(505) 476-9717

Santa Fe Public Library
145 Washington Street
Santa Fe, NM 87501
(505) 955-6780

Santa Fe Public Library
Oliver La Farge Branch
1730 Llano Street
Santa Fe, NM 87505
(505) 955-4860

U.S. Department of Energy
Freedom of Information Act Reading Room
1000 Independence Avenue, SW, 1G-033
Washington, DC 20585
(202) 586-5955

Organizations/Public Interest Groups

Lesley Weinstock, Agua es Vida Action Team
Dorelen Bunting, Albuquerque Center for Peace and Justice
Doug McClellen, Albuquerque Journal North
Adam Rankin, Albuquerque Journal North
Katherine M. Fuchs, Alliance for Nuclear Accountability
Susan Gordon, Alliance for Nuclear Accountability
Brian Shields, Amigos Bravos, Inc.
Rose Marie Cecchini, Catholic Charities of Gallup Diocese

David McCoy, Citizen Action New Mexico
Janet Greenwald, Citizens for Alternatives to Radioactive Dumping
Taunja Berquam, Office of Representative Peter Visclosky, Committee on Appropriations, Subcommittee on Energy and Water Development
Rob Blair, Office of Representative Rodney Frelinghuysen, Committee on Appropriations, Subcommittee on Energy and Water Development
Kari Bingen, Office of Representative Michael Turner, Committee on Armed Services, Subcommittee on Strategic Forces
Leonor Tomero, Office of Representative Loretta Sanchez, Committee on Armed Services, Subcommittee on Strategic Forces
Carrie Apostolou, Office of Senator Lamar Alexander, Committee on Appropriations, Subcommittee on Energy and Water Development
Doug Clapp, Office of Senator Dianne Feinstein, Committee on Appropriations, Subcommittee on Energy and Water Development
Madelyn Creedon, Office of Senator Ben Nelson, Comm. on Committee on Armed Services, Subcommittee on Strategic Forces
Daniel Lerner, Office of Senator Jeff Sessions, Committee on Armed Services, Subcommittee on Strategic Forces
Joni Arends, Concerned Citizens for Nuclear Safety
Robin Laughlin, Concerned Citizens for Nuclear Safety
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S. Kotowski, Embudo Valley Environmental Monitoring Group
Jessica Frechette-Gutfreund, Espanola Valley Women’s Health
Michelle Peixinho, Espanola Valley Women’s Health
Tom Clements, Friends of the Earth
Robert Chavez, H.O.P.E./TOTB Tewa Women United EJ
Kathy Smith, Immaculate Heart of Mary Parish
Angela Moreno, Indigenous Women's Health Program
Phil Parker, Journal Santa Fe/North
Jean Nichols, La Comunidad
John Severance, LA Monitor
Manuel Pino, Laguna Acoma Coalition for a Safe Environment
Bonnie Bonneau, Legions of Living Light
Eddie Archuleta, Liuna Local Union 16
Rocco Davis, LiUNA!
Amber Novey, LiUNA! Pacific Southwest
Sarah Meyer, Los Alamos Monitor
Greg Mello, Los Alamos Study Group
Trish Mello, Los Alamos Study Group
Aaron Tovish, Mayors for Peace
Laura Watchempino, Multicultural Alliance for a Safety Environment
Geoffrey H. Fettus, Natural Resources Defense Council
Jim Haber, Nevada Desert Experience
Leslie Elgood, New Mexico Community Capital
Sarah Wellers, New Mexico Community Foundation
James Baird, Jr., New Mexico Conference of Churches
James Leehan, New Mexico Conference of Churches
Virginia Miller, New Mexico Department of Peace Initiative
Douglas Meiklejohn, New Mexico Environmental Law Center
Paul Friesema, Northwestern University
Rick Wayman, Nuclear Age Peace Foundation
Diane D'Arrigo, Nuclear Information & Resource Service
Jay Coghlan, Nuclear Watch New Mexico
Scott Kovac, Nuclear Watch New Mexico
Geoffrey Petrie, Nuclear Watch New Mexico

John Witham, Nuclear Watch New Mexico
Glenn Carroll, Nuclear Watch South
Ralph Hutchison, Oak Ridge Environmental Peace Alliance
Antonio Sandoval, Office of U.S. Congressman Martin Heinrich
Jennifer A. Catachis, Office of U.S. Congressman Ben R. Lujan
Matt Ruybal, Office of U.S. Congressman Ben R. Lujan
Andrew Black, Office of U.S. Senator Jeff Bingaman
Sara Cobb, Office of U.S. Senator Tom Udall
Michele Jacquez-Ortis, Office of U.S. Senator Tom Udall
Charles Pergler, Pajarito Group of the Sierra Club
James M. DiLuzio, Paulist Fathers
Bud Ryan, Pax Christi New Mexico
Kevin Martin, Peace Action and Peace Action Education Fund
Peggy Prince, Peace Action New Mexico
Cat Ral, Peace Action New Mexico
Edwin Fernandez, Penasco Area Communities Association, Inc.
Peter Wilk, Physicians for Social Responsibility
R. Daniel Beavers, Plumbers & Pipefitters; U.A. Local Union No. 412
Kathy Keith, Regional Development Corporation
LeRoy Moore, Ph.D., Rocky Mountain Peace and Justice Center
Juan Montes, Rural Alliance for Military Accountability
Bernard Foy, Sangre de Cristo Audubon Society
Bruce Krasnow, Santa Fe New Mexican
Jeff Tollefson, Santa Fe New Mexican
Kathryn Sherlock, Ph.D., Santa Fe RESULTS
Penelope McMullen, Sisters of the Loretto
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Don Hancock, Southwest Research and Information Center
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Everette A. Rael, Tewa Women United
Corrine Sanchez, Tewa Women United
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Jerry Stein, President, The Peace Farm
Alice Roos, The Sanctuary Foundation
Charles E. Cole, The United Methodist Church
Alicia Dressman, Think Outside the Bomb National Youth Network
Lisa Putkey, Think Outside the Bomb
Marcus Page, Trinity Nuclear Abolition
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Scott Yundt, Tri-Valley CAREs
J. Gilbert Sanchez, Tribal Environmental Watch Alliance
Jennette Bando, Una Resolana/TWU's Environmental Justice Focus Group
David Garcia, Una Resolana
Enrique Martinez, Una Resolana
Luis Pena, Una Resolana
Rosalia Triana, Una Resolana
Lisbeth Gronlund, Union of Concerned Scientists
Norman Budow, Veterans Organization – WW-2
Melissa Larson, Wholly Rags
Susan Shaer, Women's Action for New Directions

Individuals

The following individuals have been sent a copy of the *CMRR-NF SEIS* or have been notified by electronic mail that the SEIS is available in electronic format on NNSA's website.

Wren Abbott
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Nancy Allen
Charles Alley
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KC Coburn
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Carole Crews
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Norma Cross
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Denise DeGarmo
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Ross Dimmick
Marsha Dinehart
Doug Doran
Doug Dorian
Jackie Dulle
Roger Eaton
Elliott T. Egan
Martha Eichler
Tim Eisenbeis
Chris Ellis
Beth Enson
Kelly Epstein
Ken Eske
Ayman Fadel
Dee Feeney
Janice Flahitt
Margaret Flanagan
Spencer Floyd
Ian Ford
Joanne Forman
Lisa Fox
B. Foy
Katherine Franger
Alex Fraser
Jack Frenkel
Robert Gallegos
Lydia Garcia
Richard Geddes
John Geddie
Mary L. Geraets
Daniel Gibson
Pamela Gilchrist
Robert H. Gilkeson
John E. Glenski
Fred Goddard
Mike Gomez
Melissa Padilla Gomez
Arifa Goodman
Jade Gordon
Carole Gorecki
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APPENDIX A
FEDERAL REGISTER NOTICES

This appendix presents *Federal Register* notices related to this *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)*. They include Records of Decision from previous programmatic, site-wide, and project-specific environmental impacts statements, as well as notices related to the current SEIS. The following *Federal Register* notices are included:

76 FR 28222	Extension of the Public Review and Comment Period and Announcement of an Additional Public Hearing for the Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM
76 FR 24018	Notice of Availability of the Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM
75 FR 67711	Extension of Scoping Period for the Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM
75 FR 60745	Notice of Intent to Prepare a Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM
74 FR 33232	Record of Decision: Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, NM
73 FR 77644	Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Operations Involving Plutonium, Uranium, and the Assembly and Disassembly of Nuclear Weapons
73 FR 55833	Record of Decision: Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, NM
69 FR 6967	Record of Decision: Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project, Los Alamos National Laboratory, Los Alamos, NM

DEPARTMENT OF ENERGY

National Nuclear Security Administration

Extension of the Public Review and Comment Period and Announcement of an Additional Public Hearing for the Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

ACTION: Extension of Public Review and Comment Period and Announcement of an additional Public Hearing.

SUMMARY: On April 29, 2011, the National Nuclear Security Administration (NNSA), a semi-autonomous agency within the U.S. Department of Energy (DOE), published a notice of availability for the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (CMRR–NF DSEIS; DOE/EIS–0350–S1). That notice stated that the public review and comment period would continue until June 13, 2011. NNSA has decided to extend the public comment period by 15 days through June 28, 2011 and to hold an additional public hearing on Monday, May 23, 2011 in Albuquerque, NM.

ADDRESSES: The Draft CMRR–NF SEIS and its reference material are available for review on the NNSA NEPA Web site at: *http://nnsa.energy.gov/nepa/cmrrseis*. Copies of the Draft CMRR–NF SEIS are also available for review at: The Los Alamos National Laboratory, Oppenheimer Study Center, Building TA3–207, West Jemez Road, Los Alamos, New Mexico; the Office of the Northern New Mexico Citizens Advisory Board, 1660 Old Pecos Trail, Suite B, Santa Fe, New Mexico; and the Zimmerman Library, University of New Mexico, Albuquerque, New Mexico. The Draft CMRR–NF SEIS or its Summary may be obtained upon request by leaving a message on the Los Alamos Site Office (LASO) CMRR–NF SEIS Hotline at (toll free) 1–877–427–9439; or by writing to: U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico 87544, Attn: Mr. John Tegtmeier, CMRR–NF SEIS Document Manager; or by facsimile ((505) 667–5948); or by e-mail at: *NEPALASO@doeal.gov.*

FOR FURTHER INFORMATION CONTACT: For general information on the NNSA NEPA process, please contact: Ms. Mary Martin (NA–GC), NNSA NEPA Compliance Officer, U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, or telephone 202–586–9438.

For general information concerning the DOE NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC–54), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585; (202) 586–4600; leave a message at (800) 472–2756; or send an e-mail to *askNEPA@hq.energy.gov.* Additional information regarding DOE NEPA activities and access to many DOE NEPA documents are available on the Internet through the DOE NEPA Web site at *http://nepa.energy.gov.*

SUPPLEMENTARY INFORMATION: The Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (NEPA) (40 CFR 1502.9[c][1] and [2]) and DOE's NEPA implementing regulations (10 CFR 1021.314) require the preparation of a supplement to an environmental impact statement (EIS) when there are substantial changes to a proposal or when there are significant new circumstances or information relevant to environmental concerns. DOE may also prepare a supplemental EIS at any time to further the purposes of NEPA. Pursuant to these provisions, the NNSA has prepared a supplemental environmental impact statement (SEIS) to assess the potential environmental impacts of the construction and operation of the nuclear facility portion of the Chemistry and Metallurgy Research Building Replacement Project (CMRR–NF) at Los Alamos National Laboratory (LANL), Los Alamos, New Mexico.

The CMRR Project was first analyzed in the 2003 *Final Environmental Impact Statement for the Proposed Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM* (the CMRR EIS) (DOE/EIS–0350), and NNSA issued a Record of Decision for the CMRR Project in February 2004 (68 FR 6420) announcing its decision to construct and operate a two building CMRR facility within Technical Area-55 (TA–55) at Los Alamos National Laboratory (LANL) in order to meet its need to sustain mission-critical specialized nuclear chemistry and metallurgy capabilities at LANL in a safe, secure and environmentally sound manner. Since that time, NNSA has constructed one of the two buildings for the CMRR Project (the Radiological Laboratory/Utility/Office Building, also called the RLUOB), and has engaged in project planning and design processes for the second building, the CMRR–NF. The planning and design processes for the CMRR–NF have identified the need for various changes to the original design for the structure and additional project elements not envisioned in the 2003 NEPA analyses. These proposed changes, identified subsequent to the ROD, are the subject of the CMRR–NF SEIS analyses.

On April 29, 2011, the National Nuclear Security Administration (NNSA), published a notice of availability for the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (CMRR–NF DSEIS; DOE/EIS–0350–S1) (76 FR 24018). That notice stated that the public review and comment period would continue until June 13, 2011. NNSA has decided to extend the public comment period by 15 days through June 28, 2011. NNSA has also decided to hold one additional public hearing during the comment period.

The newly added public hearing will take place on Monday, May 23, 2011 in Albuquerque, NM. The complete schedule for public hearings on the Draft CMRR–NF SEIS with all dates, times, and locations is the following:

- Monday, May 23, 2011, at 5 p.m. to 9 p.m., Albuquerque Marriott, Salon F, 2101 Louisiana Boulevard, NE., Albuquerque, NM.
- Tuesday, May 24, 2011, at 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Drive, Los Alamos, NM.
- Wednesday, May 25, 2011, at 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Drive, Española, NM.
- Thursday, May 26, 2011, at 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Avenue, Santa Fe, NM.

The first half hour of each hearing will be conducted as an open house-style session with subject matter experts available to discuss the project and answer questions; the remainder of the hearing will be devoted to receiving oral and written comments.

NNSA invites stakeholders and members of the public to submit comments on the Draft CMRR–NF SEIS during the public comment period, which started with the publication of the Environmental Protection Agency's

Notice of Availability in the **Federal Register** on April 29, 2011 and will continue for 60 days until June 28, 2011. NNSA will consider comments received after this date to the extent practicable as it prepares the Final CMRR–NF SEIS. Questions or Comments concerning the Draft CMRR–NF SEIS can be submitted to the NNSA Los Alamos Site Office at the same postal and electronic addresses given above. Additionally, the LASO CMRR–NF SEIS Hotline provides instructions on how to record comments. Please mark all envelopes, faxes and e-mail: “Draft CMRR–NF SEIS Comments”.

Issued in Washington, DC, on May 10, 2011.

Thomas P. D’Agostino,

Administrator, National Nuclear Security Administration.

[FR Doc. 2011–11909 Filed 5–13–11; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

National Nuclear Security Administration

Notice of Availability of the Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

ACTION: Notice of availability and public hearings.

SUMMARY: The National Nuclear Security Administration (NNSA) announces the availability of the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (Draft CMRR–NF SEIS) (DOE/EIS–0350–S1), and the dates and locations for public hearings to receive comments on the Draft CMRR–NF SEIS. The Draft CMRR–NF SEIS analyzes the potential environmental impacts of alternatives for constructing and operating the nuclear facility (NF) portion of the Chemistry and Metallurgy Research Building Replacement (CMRR) Project. The CMRR Project was first analyzed in the 2003 *Final Environmental Impact Statement for the Proposed Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM* (the CMRR EIS) (DOE/EIS–0350), and NNSA issued a Record of Decision for the CMRR Project in February 2004 (68 FR 6420) announcing its decision to construct and operate a two building CMRR facility within Technical Area-55 (TA–55) at Los Alamos National Laboratory (LANL) in order to meet its need to sustain mission-critical specialized nuclear chemistry and metallurgy capabilities at LANL in a safe, secure and environmentally sound manner. Since that time, NNSA has constructed one of the two buildings for the CMRR Project (the Radiological Laboratory/Utility/Office Building, also called the RLUOB), and has engaged in project planning and design processes for the second building, the CMRR–NF. The planning and design processes for the CMRR–NF have identified the need for various changes to the original design for the structure and additional project elements not envisioned in the 2003 NEPA analyses. These proposed changes, identified subsequent to the ROD, are the subject of the CMRR–NF SEIS analyses.

The Draft CMRR–NF SEIS considers a No Action Alternative (the 2004 CMRR–NF), and two action alternatives (the Modified CMRR–NF Alternative, and the Continued Use of CMR Building Alternative). Under the No Action Alternative, NNSA analyzes construction and operation of the CMRR–NF as it was originally envisioned in 2004, although it has been determined that the structural design in this alternative would not meet current nuclear facility design safety requirements. Thus, this alternative no longer meets NNSA's purpose and need.

The Modified CMRR–NF Alternative incorporates currently identified construction and operational requirements for the CMRR–NF, and meets NNSA's purpose and need. The Continued Use of CMR Building Alternative analyzes continued use of the CMR Building for as long as it may be safe to do so, together with the RLUOB, although this alternative would not fully meet NNSA's purpose and need. The Modified CMRR Alternative is NNSA's preferred alternative.

DATES: NNSA invites stakeholders and members of the public to submit comments on the Draft CMRR–NF SEIS during the public comment period, which starts with the publication of the Environmental Protection Agency's Notice of Availability in the **Federal Register** and extends for 45 days until June 13, 2011. NNSA will consider comments received after this date to the extent practicable as it prepares the Final CMRR–NF SEIS.

NNSA will hold three public hearings on the Draft CMRR–NF SEIS at the following dates, times, and locations:

- Tuesday, May 24, 2011, at 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Drive, Los Alamos, NM.
- Wednesday, May 25, 2011, at 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Drive, Española, NM.
- Thursday, May 26, 2011, at 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Avenue, Santa Fe, NM.

The first half hour of each hearing will be conducted as an open house-style session with subject matter experts available to discuss the project and answer questions; the remainder of the hearing will be devoted to receiving oral and written comments.

ADDRESSES: The Draft CMRR–NF SEIS and its reference material are available for review on the NNSA NEPA Web site at: *http://nnsa.energy.gov/nepa/cmrrseis*. Copies of the Draft CMRR–NF SEIS are also available for review at: the Los Alamos National Laboratory, Oppenheimer Study Center, Building TA3–207, West Jemez Road, Los Alamos, New Mexico; the Office of the Northern New Mexico Citizens Advisory Board, 1660 Old Pecos Trail, Suite B, Santa Fe, New Mexico; and the Zimmerman Library, University of New Mexico, Albuquerque, New Mexico. The Draft CMRR–NF SEIS or its Summary may be obtained upon request by leaving a message on the Los Alamos Site Office (LASO) CMRR–NF SEIS Hotline at (toll free) 1–877–427–9439; or by writing to: U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544, Attn: Mr. John Tegtmeier, CMRR–NF SEIS Document Manager; or by facsimile ((505) 667–5948); or by e-mail at: *NEPALASO@doeal.gov.*

Questions or Comments concerning the Draft CMRR–NF SEIS can be submitted to the NNSA Los Alamos Site Office at the same postal and electronic addresses given above. Additionally, the LASO CMRR–NF SEIS Hotline will have instructions on how to record comments. Please mark all envelopes, faxes and e-mail: "Draft CMRR–NF SEIS Comments".

For general information about the DOE NEPA process, please contact: Ms. Carol Borgstrom, Director, Office of NEPA Policy and Compliance (GC–54), U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585, (202) 586–4600, or leave a message at 1–800–472–2756. Additional information regarding DOE NEPA activities and access to many of DOE's NEPA documents are available on the Internet through the DOE NEPA Web site at *http://nepa.energy.gov.*

SUPPLEMENTARY INFORMATION: The NNSA has prepared the Draft CMRR SEIS in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations that implement the procedural provisions of NEPA (40 CFR parts 1500–1508), and DOE regulations implementing NEPA (10 CFR 1021). These regulations require the preparation of a supplement to an environmental impact statement (EIS) when there are substantial changes to a proposal or when there or significant new circumstances or information relevant to environmental concerns. An agency may also supplement an EIS to further the purposes of NEPA.

Background. LANL is located in north-central New Mexico, 60 miles north-northeast of Albuquerque, 25 miles northwest of Santa Fe, and 20 miles southwest of Española in Los Alamos and Santa Fe Counties. It is located between the Jemez Mountains to the west and the Sangre de Cristo Mountains and Rio Grande to the east. LANL occupies an area of about 40 square miles (104 square kilometers). It is a multidisciplinary, multipurpose institution engaged in theoretical and experimental research and development. LANL performs scientific research and development, and production mission support activities that are critical to the accomplishment of the NNSA's national security objectives as reflected in previous NEPA decisions based on the *Stockpile Stewardship and Management Programmatic EIS* (DOE/EIS–0236) and the *Complex Transformation Supplemental Programmatic EIS* (SPEIS) (DOE/EIS–0236–S4). LANL's role in NNSA mission objectives includes a wide range of scientific and technological capabilities that support nuclear materials handling, processing and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; research and development support for national defense and homeland security programs; and DOE waste management activities.

The CMR facility, located in TA–3 at LANL, houses unique analytical chemistry (AC) and material characterization (MC) support capabilities needed to execute NNSA mission activities. However, CMR is nearly 60 years old. A 1998 seismic study identified two small parallel faults beneath the northernmost portion of the CMR Building. The presence of these faults has given rise to operational and safety concerns related to the structural integrity of the building should a seismic event affecting LANL take place. CMR Building operations and capabilities are currently restricted in scope due to both safety and security constraints; it cannot be operated to the full extent needed to meet NNSA operational requirements. In the late 1990s, NNSA began to develop plans to relocate the CMR Building capabilities elsewhere at LANL to ensure its ability to provide AC and MC support for national security and other NNSA missions. The CMRR EIS was prepared and issued in 2003, followed by a ROD in 2004.

The RLUOB portion of the CMRR project has been completely planned and constructed at TA–55 over the past 7 years. During this same time period, project planning and design for the CMRR–NF has progressed. The CMRR–NF planning process has identified several project requirements that were not envisioned when the CMRR EIS was prepared and issued in 2003. Various facility modifications to address current DOE and NNSA nuclear facility design requirements and sustainable design principals have been identified by NNSA. Several ancillary and support project requirements in addition to those previously analyzed in the CMRR EIS have also been identified. The modifications to the proposed CMRR–NF structural design would allow the building to be operated to the full extent needed to meet NNSA objectives for the CMRR Facility.

NNSA conducted a public scoping process that began with the publication of a Notice of Intent (NOI) in the **Federal Register** on October 1, 2010, in which NNSA announced its intention to prepare the CMRR–NF SEIS and invited public comment on the scope of the NEPA analysis. The NOI also announced the schedule for public scoping meetings that were held on October 19, 2010, and on October 20, 2010, in White Rock and Pojoaque, New Mexico, respectively. In addition to the public meetings, the public was encouraged to provide comments via mail, e-mail, and fax. All scoping comments received were considered by NNSA in preparing the Draft CMRR SEIS.

Alternatives. The Draft CMRR–NF SEIS analyzes the following three alternatives:

No Action Alternative. The No Action Alternative (also referred to as the 2004 CMRR–NF) reflects the CMRR–NF as it was described and analyzed in the 2003 CMRR EIS and selected in the 2004 ROD (69 FR 6967) and the 2008 Complex Transformation SPEIS ROD (73 FR 77656).

This alternative also includes two additional project activities that were not included in the 2003 CMRR EIS but were analyzed in the 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (the LANL SWEIS, DOE/EIS –0380), which analyzed the CMRR Facility as part of on-going and future LANL operations. These additional project elements are the transportation and storage of up to 150,000 cubic yards (115,000 cubic meters) per year of excavated soil and spoils from the construction site, and the installation of a new 115-kilovolt electric substation on the existing power distribution loop in TA–50. The 2004 CMRR–NF would have been constructed at TA–55, adjacent to the RLUOB. It is now known, however, that the 2004 CMRR–NF design would not be able to be constructed to meet the nuclear facility design standards required for NNSA to safely conduct the full suite of AC and MC mission work needed by NNSA and DOE. Under the No Action Alternative, the 2004 CMRR–NF would have been constructed as a two-storied building with one above ground level and one below ground level, together with connecting tunnels, material storage vaults, utility structures and trenches, security structures, parking area(s) and a variety of other support areas (such as material laydown areas, concrete batch plant, and equipment storage and parking areas). The building would have comprised about 200,000 square feet (18,600 square meters) of solid floor space, while the total amount of laboratory workspace where mission-related AC and MC operations would be performed would have been about 22,500 square feet (2,100 square meters) in size.

Modified CMRR–NF Alternative. The Modified CMRR–NF would be constructed at the same TA–55 location adjacent to the RLUOB which is identified for the No Action Alternative and would enable NNSA to safely conduct the full suite of AC and MC mission work needed by NNSA and DOE. The Modified CMRR–NF would be constructed with additional structural and reinforcing concrete and steel; additional soil excavation, soil stabilization, and foundation work would also be necessary. The building would comprise about 344,000 square feet (31,000 square meters) of useable floor space divided between four stories and a partial roof level. The total amount of laboratory workspace where mission-related AC and MC operations would be performed would be about 22,500 square feet (2,100 square meters) in size. Additionally, a set of dedicated fire suppression water storage tanks would be located within the Modified CMRR–NF building. This proposed project would differ from the 2004 CMRR–NF in that it would include facility modifications to address DOE and NNSA nuclear facility design standards including seismic safety, nuclear safety basis requirements, security needs, and sustainable design principals and would also include certain additional infrastructure enhancements and construction support activities.

The Modified CMRR–NF Alternative includes two construction options, the Deep Excavation Option and the Shallow Excavation Option. The two construction options consider excavation depths that would allow NNSA to construct the building either below or above a layer of poorly welded volcanic tuff (ash) present at the TA–55 site. The Modified CMRR Alternative is NNSA's preferred alternative; however, NNSA has not identified a preferred construction option at this time.

Continued Use of CMR Building Alternative. Under this alternative, NNSA would continue to carry out laboratory operations in the existing CMR Building at TA–3, with radiological laboratory and administrative support operations moving into the newly constructed RLUOB at TA–55. The continued operation of the CMR Building over an extended period of time would result in continued reduction of laboratory space as operations are further consolidated, or eliminated. It may also include further reductions in operations that could be identified as necessary over time based on the limited ability of the CMR Building to be safely operated and maintained in a physically prudent fashion. This alternative would not meet NNSA's need to carry out AC and MC operations at a level that would support the entire range of DOE and NNSA mission needs.

Public Hearings and Invitation to Comment. NNSA will hold three public hearings on the Draft CMRR–NF SEIS as described in this Notice under **DATES.** Individuals who would like to present comments orally at these hearings must register upon arrival at the hearing. Speaking time will be allotted by the hearing moderator to each individual wishing to speak so as to ensure that as many people as possible have the opportunity to speak. NNSA representatives will be available during the open house portion of these hearings to discuss the Draft CMRR–NF SEIS and the analyses in it. Following the plenary session, the public will have an opportunity to provide oral and written comments.

Following the end of the public comment period on the Draft CMRR–NF SEIS described above, the NNSA will consider and respond to the comments received during the comment period on the Draft CMRR–NF SEIS in the Final CMRR–NF SEIS, and issue the Final CMRR–NF SEIS. NNSA decision-makers will consider the environmental impact analysis presented in the Final CMRR–NF SEIS, along with other information, in making decisions related to CMRR–NF.

Signed in Washington, DC, on April 21, 2011.

Thomas P. D'Agostino,

Administrator, National Nuclear Security Administration.

[FR Doc. 2011–10406 Filed 4–28–11; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Extension of Scoping Period for the Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

ACTION: Notice; extension of scoping period.

SUMMARY: On October 1, 2010, the National Nuclear Security Administration (NNSA), a semi-autonomous agency within the U.S. Department of Energy (DOE), published a notice of intent to prepare the *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (CMRR–NF SEIS; DOE/EIS–0350–S1). That notice stated that the scoping period would continue until November 1, 2010. NNSA has extended the public scoping period through November 16, 2010.

ADDRESSES: Written comments or suggestions concerning the scope of the CMRR–NF SEIS, or requests for more information on the SEIS and public scoping process, should be directed to: Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544; facsimile at 505–667–5948; or e-mail at: *NEPALASO@doeal.gov.* Mr. Tegtmeier may also be reached by telephone at 505–665–0113. Additionally, may record their comments, ask questions concerning the EIS, or request to be placed on the EIS mailing or document distribution list by leaving a message on the SEIS Hotline at (toll free) 1–877–427–9439. The Hotline will provide instructions on how to record comments and requests.

FOR FURTHER INFORMATION CONTACT: For general information on the NNSA NEPA process, please contact: Ms. Mary Martin (NA–56), NNSA NEPA Compliance Officer, U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, or telephone 202–586–9438.

For general information concerning the DOE NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC–54), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585; (202) 586–4600; leave a message at (800) 472–2756; or send an e-mail to *askNEPA@hq.energy.gov.* Additional information regarding DOE NEPA activities and access to many DOE NEPA documents are available on the Internet through the DOE NEPA Web site at *http://nepa.energy.gov.*

SUPPLEMENTARY INFORMATION: The Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (NEPA) (40 CFR 1502.9[c] [1] and [2]) and DOE's NEPA implementing regulations (10 CFR 1021.314) require the preparation of a supplement to an environmental impact statement (EIS) when there are substantial changes to a proposal or when there are significant new circumstances or information relevant to environmental concerns. DOE may also prepare a supplemental EIS at any time to further the purposes of NEPA. Pursuant to these provisions, the NNSA intends to prepare a supplemental environmental impact statement (SEIS) to assess the potential environmental impacts of the construction and operation of the nuclear facility portion of the Chemistry and Metallurgy Research Building Replacement Project (CMRR–NF) at Los Alamos National Laboratory (LANL), Los Alamos, New Mexico.

On October 1, 2010, NNSA published a notice of intent to prepare the *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS–0350–S1). That notice stated that the scoping period would continue until November 1, 2010. In response to public requests, NNSA has extended the public scoping period through November 16, 2010. NNSA will consider comments received after this date to the extent practicable as it prepares the Draft CMRR–NF SEIS.

Issued in Washington, DC, on November 1, 2010.

Thomas P. D'Agostino,

Administrator, National Nuclear Security Administration.

[FR Doc. 2010–27864 Filed 11–1–10; 4:15 pm]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

National Nuclear Security Administration

Notice of Intent To Prepare a Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, NM

AGENCY: U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA).

ACTION: Notice of intent.

SUMMARY: The Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (NEPA) (40 CFR 1502.9[c][1] and [2]) and DOE's NEPA implementing regulations (10 CFR 1021.314) require the preparation of a supplement to an environmental impact statement (EIS) when there are substantial changes to a proposal or when there are significant new circumstances or information relevant to environmental concerns. DOE may also prepare a supplemental EIS at any time to further the purposes of NEPA. Pursuant to these provisions, the NNSA, a semi-autonomous agency within the DOE, intends to prepare a supplemental environmental impact statement (SEIS) to assess the potential environmental impacts of the construction and operation of the nuclear facility portion of the Chemistry and Metallurgy Research Building Replacement Project (CMRR–NF) at Los Alamos National Laboratory (LANL), Los Alamos, New Mexico.

The CMRR Project, including the CMRR–NF, was the subject of NNSA's *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS–0350; the CMRR EIS) issued in November 2003, and a February 2004 Record of Decision (ROD) (69 FR 6967). Over time, due in large part to detailed site geotechnical investigations, some aspects of the CMRR–NF Project have changed from what was foreseen when the CMRR EIS was prepared. The potential environmental impacts of these proposed changes will be analyzed in the CMRR–NF SEIS.

DATES: NNSA invites stakeholders and members of the public to submit comments and suggestions on the scope of the SEIS during the SEIS scoping period, which starts with the publication of this Notice and will continue for 30 days until November 1, 2010. NNSA will consider all comments received or postmarked by that date in defining the scope of this SEIS. Comments received or postmarked after that date will be considered to the extent practicable. Two public scoping meetings will be held to provide the public with an opportunity to present comments, ask questions, and discuss concerns regarding the SEIS with NNSA officials. Public scoping meetings will be held on October 19, 2010, at the White Rock Town Hall, 139 Longview Drive, White Rock, New Mexico and October 20, 2010, at the Cities of Gold Casino Hotel, Pojoaque, New Mexico. Both meetings will begin at 4 p.m. and end at 7 p.m. The NNSA will publish additional notices regarding the scoping meetings in local newspapers in advance of the scheduled meetings. Any necessary changes will be announced in the local media.

Any agency, state, pueblo, tribe, or unit of local government that desires to be designated a cooperating agency should contact Mr. John Tegtmeier at the address listed below by the closing date of the scoping period.

ADDRESSES: Written comments or suggestions concerning the scope of the CMRR–NF SEIS or requests for more information on the SEIS and public scoping process should be directed to: Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544; facsimile at 505–667–5948; or e-mail at: *NEPALASO@doeal.gov.* Mr. Tegtmeier may also be reached by telephone at 505–665–0113.

In addition to providing comments at the public scoping meetings, all interested parties are invited to record their comments, ask questions concerning the EIS, or request to be placed on the EIS mailing or document distribution list by leaving a message on the SEIS Hotline at (toll free) 1–877–427–9439. The Hotline will provide instructions on how to record comments and requests.

FOR FURTHER INFORMATION CONTACT: For general information on the NNSA NEPA process, please contact: Ms. Mary Martin (NA–56), NNSA NEPA Compliance Officer, U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, or telephone 202–586–9438. For general information about the DOE NEPA process, please contact: Ms. Carol Borgstrom, Director, Office of NEPA Policy and Compliance (GC–54), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, telephone 202–586–4600, or leave a message at 1–800–472–2756. Additional information about the DOE NEPA process, an electronic archive of DOE NEPA documents, including those referenced in this announcement, and other NEPA resources are provided at *http://nepa.energy.gov.*

SUPPLEMENTARY INFORMATION: LANL is located in north-central New Mexico, 60 miles north-northeast of Albuquerque, 25 miles northwest of Santa Fe, and 20 miles southwest of Española in Los Alamos and Santa Fe Counties. It is located between the Jemez Mountains to the west and the Sangre de Cristo Mountains and Rio Grande to the east. LANL occupies an area of about 25,600 acres [10,360 hectares] or approximately 40 square miles and is operated for NNSA by a contractor, Los Alamos National Security, LLC. It is a multidisciplinary, multipurpose institution engaged in theoretical and experimental research and development. LANL has been assigned science, research and development, and production mission support activities that are critical to the accomplishment of the NNSA's national security objectives as reflected in the Stockpile Stewardship and Management Programmatic EIS (DOE/EIS–0236) and the Complex Transformation Supplemental Programmatic EIS (DOE/EIS–0236–S4). LANL's main role in NNSA mission objectives includes a wide range of scientific and technological capabilities that support nuclear materials handling, processing and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; research and development support for national defense and homeland security programs; and DOE waste management activities.

The capabilities needed to execute the NNSA mission activities require facilities at LANL that can be used to handle actinides and other radioactive materials in a safe and secure manner. (The actinides are any of a series of 14 chemical elements with atomic numbers ranging from 89 (actinium) through 103 (lawrencium)). Of primary importance are the facilities located within the Chemistry and Metallurgy Research (CMR) Building and the Plutonium Facility (located at Technical Areas (TAs) 3 and 55, respectively), which are used for processing, characterizing, and storage of special nuclear material. (Special nuclear material is defined by the Atomic Energy Act of 1954 as plutonium, uranium-233, or uranium enriched in the isotopes uranium-233 or uranium-235). Most of the LANL mission support functions previously listed require analytical chemistry, material characterization, and actinide research and development support capabilities that currently exist within the CMR Building and are not available elsewhere. Other unique capabilities are located at the adjacent Plutonium Facility. Work is sometimes moved between the CMR Building and the Plutonium Facility to make use of the full suite of capabilities that these two facilities provide. CMR Building operations and capabilities are currently restricted in scope due to safety and security constraints; it cannot be operated to the full extent needed to meet NNSA operational requirements.

The CMR building contains about 550,000 square feet (about 51,100 square meters) of floor space on two floors divided between a main corridor and seven wings. It was constructed in the early 1950s. DOE maintained and upgraded the building over time to provide for continued safe operations. However, beginning in 1997 and 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Building. In January 1999, the NNSA approved a strategy for managing operational risks at the CMR Building. The strategy included implementing operational restrictions to ensure safe operations. These restrictions are impacting the assigned mission activities conducted at the CMR Building. This strategy also committed NNSA to develop plans to relocate the CMR capabilities elsewhere at LANL to maintain support of national security and other NNSA missions. The CMRR EIS was prepared and issued in 2003, followed by a ROD in 2004.

The CMRR EIS analyzed four action alternatives: (1) The construction and operation of a new CMRR facility at TA–55; (2) the construction of a new CMRR facility at a "greenfield" location within TA–6; (3) a "hybrid" alternative maintaining administrative offices and support functions at the existing CMR building with a new Hazard Category 2 laboratory facility built at TA–55; and, (4) a "hybrid" alternative with the laboratory facility being constructed at TA–6. The CMRR EIS also analyzed a no action alternative where the existing CMR building would continue to be kept in service. In the 2004 ROD, NNSA announced its decision to implement the preferred alternative (alternative 1): To construct a new CMRR facility which would include a single above-ground, consolidated nuclear material-capable, Hazard Category 2 laboratory building (construction option 3) with a separate, adjacent administrative office and support functions building, now referred to as the CMRR Radiological Laboratory/Utility/Office Building (CMRR RLUOB). Upon completion, the CMRR Facility would replace the CMR Building, operations would be moved to the new CMRR Facility, and the vacated CMR Building would undergo decommissioning, decontamination, and demolition. (While the CMRR RLUOB has been constructed in TA–55 at LANL, the installation of laboratory equipment has not been completed and operations have not begun). Since 2004, the planning process for the construction and operation of the CMRR–NF has continued to progress and take into consideration newly gathered site-specific data and safety and security requirements.

Purpose and Need: The NNSA's purpose and need for proposing the construction and operation of the CMRR–NF have not changed since the CMRR EIS was prepared and issued in 2003. NNSA needs to provide the physical means for accommodating the CMR Building's functional, mission-critical nuclear capabilities, and to consolidate activities for safer and more efficient operations. In the 2003 CMRR EIS, NNSA analyzed the potential environmental impacts associated with the proposed relocation of LANL analytical chemistry (AC) and materials characterization (MC), and associated research and development capabilities that currently exist primarily at the existing CMR building, to a newly constructed facility, and operation of the new facility for the next 50 years. In the May 2008, *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS–0380), the CMRR was considered and its potential environmental impacts analyzed as a part of the No Action Alternative and each of the action alternatives for continued operation of LANL.

The potential environmental impacts associated with the construction and operation of the CMRR–NF were also analyzed within certain alternatives in the Complex Transformation SPEIS (DOE/EIS–0236–S4) as part of the proposal to reconfigure and streamline NNSA's nuclear security enterprise. NNSA issued two RODs based on the Complex Transformation SPEIS analysis in December 2008. In the SPEIS ROD for operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons (73 FR 77644), NNSA announced its decision to retain plutonium manufacturing and research and development at LANL, and in support of these activities, to proceed with construction and operation of the CMRR–NF at LANL as essential to its ability to meet national security requirements regarding the nation's nuclear deterrent.

Proposed Action and Alternatives

Proposed Action: The Proposed Action is to construct the CMRR–NF at TA–55. Over time some aspects of the proposed CMRR–NF Project plans have changed. These proposed changes include, for example:

• Changes to the CMRR–NF structure required for seismic safety based on new information from additional geotechnical investigations conducted at the site. These changes involve incorporating additional structural steel and concrete into the building construction and increasing the quantity of material that must be excavated for the building foundation;

• Changes to the infrastructure to support the CMRR–NF construction activities, such as concrete batch plants, construction material lay-down areas and warehouses, and temporary office trailers and parking areas. Some of these changes involve the use of additional acreage. Most of these proposed changes are temporary in duration;

• Changes to the CMRR–NF structure to ensure 10 CFR part 830 nuclear safety basis requirements are met for facility engineering controls to ensure protection of the public, workers, and the environment; and

• Changes to incorporate additional sustainable design principles and environmental conservation measures. These changes minimize the environmental impacts of construction and operation of the CMRR–NF.

The potential environmental impacts of these and similar changes will be analyzed in the CMRR–NF SEIS.

No Action Alternative: The No Action alternative would be the construction of the CMRR–NF and the ancillary and support activities as announced in the 2004 ROD.

CMR Alternative 1: Do not construct a replacement facility to house the capabilities planned for the CMRR–NF. Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, with no facility upgrades, while performing routine maintenance at the level needed to sustain programmatic operations for as long as feasible.

CMR Alternative 2: Same as CMR Alternative 1, but includes making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.

Preliminary Identification of Environmental Issues. NNSA has tentatively identified the following issues for analysis in this SEIS. Additional issues may be identified as a result of the scoping process.

1. Potential impacts to air, water, soil, visual resources and viewsheds.
2. Potential impacts to plants and animals, and to their habitats, including Federally-listed threatened or endangered species and their critical habitats.
3. Potential impacts from irretrievable and irreversible consumption of natural resources and energy, including transportation issues.
4. Potential impacts to cultural resources, including historical and prehistorical resources and traditional cultural properties.
5. Potential impacts to infrastructure and utilities.
6. Potential impacts to socioeconomic conditions.
7. Potential environmental justice impacts to minority and low-income populations.
8. Potential cumulative impacts from the Proposed Action and alternatives together with other past, present, and reasonably foreseeable actions at LANL.

CMRR–NF SEIS Preparation Process: The scoping process for a NEPA document is an opportunity for the public to assist the NNSA in determining the alternatives and issues for analysis. Alternatives may be added, deleted, or modified as a result of scoping. The purpose of the scoping meetings is to receive oral and written comments from the public. The meetings will use a format to facilitate dialogue between NNSA and the public and will be an opportunity for individuals to provide written or oral statements. NNSA welcomes specific comments or suggestions on the content of these alternatives, or on other alternatives that should be considered. The above list of issues to be considered in the SEIS analysis is tentative and is intended to facilitate public comment on the scope of the SEIS. It is not intended to be all-inclusive, nor does it imply any predetermination of potential impacts. The CMRR–NF SEIS will describe the potential environmental impacts of the alternatives, using available data where possible and obtaining additional data where necessary. Copies of written comments and transcripts of oral comments will be available as soon as practicable after the public scoping meeting on the Internet at: *http://www.doeal.gov/laso/NEPADocuments.aspx.*

Following the scoping period announced in this Notice of Intent, and after consideration of comments received during scoping, NNSA will prepare a *Draft Supplemental Environmental Impact Statement for the Construction of the Chemistry and Metallurgy Replacement Project's Nuclear Facility at Technical Area-55 Within Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS–0350–S1). Comments received on the Draft SEIS during the planned 45-day comment period will be considered and addressed in the Final SEIS, which NNSA anticipates issuing by July 2011. NNSA will issue a ROD no sooner than 30 days after publication by the Environmental Protection Agency of a Notice of Availability of the Final SEIS.

Issued in Washington, DC, this 28th day of September 2010.

Thomas P. D'Agostino,

Administrator, National Nuclear Security Administration.

[FR Doc. 2010–24681 Filed 9–30–10; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

National Nuclear Security Administration

Record of Decision: Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, NM

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

ACTION: Record of decision.

SUMMARY: The National Nuclear Security Administration (NNSA), a separately organized agency within the U.S. Department of Energy (DOE), is issuing this Record of Decision (ROD) for the continued operation of the Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico, pursuant to the *Final Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico,* DOE/EIS–0380 (SWEIS) (73 FR 28453, May 16, 2008). This ROD is the second ROD based on the information and analyses contained in the SWEIS and other factors, including comments received on the SWEIS, costs, technical and security considerations, and the missions of NNSA. These decision factors also include results from the analyses in the October 24, 2008, *Final Complex Transformation Supplemental Programmatic Environmental Impact Statement* (DOE/EIS–0236–S4, 73 FR 63460) (Complex Transformation SPEIS) and its two RODs (73 FR 77644, 73 FR 77656, December 19, 2008). NNSA issued the first ROD for the continued operation of LANL based on the SWEIS (73 FR 55833) on September 26, 2008.

In the LANL SWEIS, NNSA analyzed three alternatives for the continued operation of LANL: (1) No Action, (2) Reduced Operations, and (3) Expanded Operations. NNSA identified the Expanded Operations Alternative as its Preferred Alternative.

For this second ROD, NNSA continues to select the No Action Alternative, announced in the 2008 ROD as its decision for continuing the operation of LANL, and has decided to implement additional elements of the Expanded Operations Alternative. Specific projects that will be implemented under this ROD are: (1) Complete the environmental remediation and closure of Technical Area 18 (TA–18) Pajarito Site; (2) complete the environmental remediation and closure of TA–21 (also referred to as the Delta Prime or DP Site); (3) refurbish the Plutonium Facility Complex at TA–55; (4) construct and operate a new Radioactive Liquid Waste Treatment Facility in TA–50 and operate a zero liquid discharge facility in TA–52 as an auxiliary action; (5) install additional processors and equipment to further expand the capabilities and operation level of the Nicholas C. Metropolis Center for Modeling and Simulation in TA–3; and (6) construct and operate a new Science and Engineering Complex at TA–62. These projects and the changes in operations associated with them are needed to support DOE and NNSA missions; to maintain and improve the safety and security of existing capabilities at LANL; and to further LANL intra-site facility consolidation. Decisions that NNSA is announcing in this ROD will not change the plutonium pit production throughput capability at LANL (20 plutonium pits per year), nor will they influence or be impacted by future decisions that may be made based on the upcoming Nuclear Posture Review.[1]

FOR FURTHER INFORMATION CONTACT: For copies of the SWEIS, the 2008 SWEIS ROD or this ROD, or to receive further information about other issues regarding the Los Alamos Site Office's National Environmental Policy Act (NEPA) compliance program, contact: Mr. George J. Rael, Assistant Manager Environmental Operations, NEPA Compliance Officer, U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, Los Alamos, NM

[1] The Nuclear Posture Review is a congressionally mandated comprehensive review of U.S. nuclear deterrence policy and strategy that the Secretary of Defense will conduct in consultation with the Secretary of Energy and the Secretary of State. The requirement for this review can be found in the National Defense Appropriations Act for 2008, Public Law 110–181.

87544. Mr. Rael may be contacted by telephone at (505) 665–5658, or by e-mail at LASO.SWEIS@doeal.gov. For information on the DOE NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC–20), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–4600, or leave a message at (800) 472–2756. Additional information regarding DOE NEPA activities and access to many DOE NEPA documents, including those referenced in this ROD, are available on the Internet through the DOE NEPA Web site at *http://www.gc.energy.gov/nepa/.*

SUPPLEMENTARY INFORMATION:

Background

NNSA prepared this ROD pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing NEPA (40 CFR parts 1500–1508) and DOE's NEPA Implementing Procedures (10 CFR part 1021). Decisions presented in this second ROD are based on information and analysis contained in the SWEIS (including a classified appendix that assesses the potential environmental impacts of a representative set of credible intentional destructive acts that include terrorism scenarios) (73 FR 28453, May 16, 2008), comments received on the Final SWEIS; NNSA's two December 19, 2008, RODs resulting from information and analysis contained in the Complex Transformation SPEIS (73 FR 77644, 73 FR 77656); and other factors, including costs, technical and security considerations, and the missions of NNSA.

LANL is a multidisciplinary, multipurpose research institution in north-central New Mexico, about 60 miles (97 kilometers) north-northeast of Albuquerque, and about 25 miles (40 kilometers) northwest of Santa Fe. LANL occupies about 25,600 acres (10,360 hectares), or approximately 40 square miles (104 square kilometers). About 2,000 structures with approximately 8.6 million square feet under roof serve to house LANL operations and activities, with about half the square footage used as laboratory or production space, and the remaining half used for administrative, storage, service, and other purposes.

LANL is one of three national security laboratories within NNSA's Nuclear Security Enterprise. The main role of LANL in the fulfillment of NNSA and DOE missions is scientific and technological work that supports nuclear materials handling and processing, and weapons component fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities. LANL plays a key role in providing stewardship for the nation's nuclear stockpile that includes manufacturing some nuclear weapons components, such as plutonium pits. In addition to weapons component manufacturing, LANL performs weapons component testing, stockpile assurance, component replacement, surveillance, and maintenance. Research and development activities at LANL include high explosives processing, chemical research, nuclear physics research, materials science research, systems analysis and engineering, human genome mapping, biotechnology applications, and remote sensing technologies. Work at LANL is also conducted for other Federal agencies such as the Departments of Defense and Homeland Security, as well as for universities, institutions, and private entities.

The alternatives evaluated in the SWEIS span a range of potential operations from minimum levels that would maintain essential mission support capabilities (Reduced Operations Alternative), through the highest reasonably foreseeable levels that could be supported by current facilities or new facilities (Expanded Operations Alternative). The No Action Alternative analyzed in the SWEIS is essentially a continuation of current operations based on previous NEPA analyses and decisions, including the 1999 LANL SWEIS (DOE/EIS–0238, January 1999) and its ROD (64 FR 50797, September 20, 1999). The Reduced Operations and Expanded Operations Alternatives analyzed in the SWEIS are reductions or expansions of the level of operations for the No Action Alternative. As a matter of convenience, actions associated with implementing the March 2005 LANL Compliance Order on Consent (Consent Order) with the State of New Mexico [2] are only analyzed in the Expanded Operations Alternative. However, NNSA stated in the SWEIS that DOE intends to implement actions necessary to comply with the Consent Order, regardless of decisions it makes on other actions analyzed in the LANL SWEIS.

The 2008 SWEIS ROD announced NNSA's decision to continue to implement the No Action Alternative with certain elements of the Expanded Operations Alternative. These specific elements were: (1) Continuing to implement actions necessary to comply with the Consent Order, which requires investigation and remediation of environmental contamination at LANL; (2) broadening the types and quantities of radioactive sealed sources for isotopes of Cobalt, Iridium, Californium and Radium, (Co-60, Ir-192, Cf-252, Ra-226), that LANL will manage and store prior to disposal; (3) expanding the capabilities and operational level of the Nicholas C. Metropolis Center for Modeling and Simulation to support the Roadrunner super computing platform; (4) performing research regarding beryllium detection and mitigation measures; (5) retrieving and disposing of about 3,100 cubic yards of contact-handled and 130 cubic yards of remote-handled legacy transuranic (TRU) waste from below-ground storage; (6) planning, design, construction, and operation of the Waste Management Facilities Transition projects to facilitate actions required by the Consent Order; (7) repairing and replacing mission critical cooling system components for buildings in Technical Area–55 (TA–55); and (8) completing final design of a new Radioactive Liquid Waste Treatment Facility, and designing and constructing the zero liquid discharge facility auxiliary component of the new treatment facility.

NNSA has previously announced its determination that the Expanded Operations Alternative is both its Preferred Alternative and the Environmentally Preferred Alternative. Considering the many aspects of the alternatives analyzed in the SWEIS, and looking out over the long term, NNSA believes that the implementation of changes analyzed in the Expanded Operations Alternative would allow it to best achieve both its mission and environmental responsibilities. Under this alternative, NNSA would be better positioned to minimize the use of electricity and water; streamline operations through consolidation; replace older laboratory and production facilities with new buildings that incorporate modern safety, security, and energy efficiency standards improving NNSA's ability to protect human health; reduce the ''footprint'' of LANL as a whole; and allow some areas to return to a natural state.

NNSA published as Volume 3 of the SWEIS all comments received on the

[2] The March 2005 LANL Compliance Order on Consent was issued pursuant to the New Mexico Hazardous Waste Act and entered into by the State of New Mexico, the Department of Energy and its Management and Operating Contractor to address requirements concerning certain groundwater contaminants toxic pollutants and explosive compounds. The Consent Order may be viewed at *http://www.lanl.gov/environment/compliance/consent_order.shtml.*

Draft SWEIS together with NNSA's responses, and discussions of how comments resulted in changes to the document. The 2008 SWEIS ROD included a detailed discussion of the comments received on the Final SWEIS, and will not be repeated here. In response to the concern raised by several of the commenters that proceeding with an increase in plutonium pit production at this time would be premature, NNSA agrees that making decisions at this time on future plutonium pit production levels is premature, and will delay making any decisions in this area until after the completion of the upcoming Nuclear Posture Review. Decisions that NNSA is announcing in this ROD will not change the 20 plutonium pits per year level of plutonium pit production throughput capability established in the 1999 LANL SWEIS ROD.

On December 19, 2008, NNSA issued two RODs based in part on the Complex Transformation SPEIS for the continued transformation of the nuclear weapons complex. One ROD addressed the implementation of programmatic alternatives involving plutonium, uranium, and the assembly and disassembly of nuclear weapons (73 FR 77644). The other announced the implementation of project-specific alternatives involving tritium research and development, flight test operations, and major environmental test facilities (73 FR 77656). NNSA's programmatic decision to retain and consolidate plutonium pit manufacturing and research and development work at LANL means that special nuclear materials and work performed with plutonium will be consolidated from some of the other NNSA sites to LANL. This decision supports the transformation of the nuclear weapons complex into a smaller, more efficient nuclear security enterprise that can respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile. Two of NNSA's project-specific decisions also directly affect LANL operations: (1) The consolidation of tritium research and operations at the Savannah River Site, which reduces tritium operations at LANL; and (2) the consolidation of major environmental test facilities at Sandia National Laboratories/New Mexico, which closes four facilities at LANL.

Basis for Decision

In this second ROD, NNSA is announcing its decision to continue to implement the No Action Alternative with the addition of elements from the Expanded Operations Alternative of the SWEIS. NNSA has also decided that it will now implement additional elements from the Expanded Operations Alternative that complement the actions taken under the 2008 SWEIS ROD. These additional elements collectively include increases in the operation of some existing facilities and the implementation of a limited number of additional new facility projects needed to support ongoing stockpile stewardship and environmental closure and remediation programs; to enhance nuclear safety and security; and to provide modern features for the protection of workers and the environment. NNSA will continue to undertake intra-site consolidation of operations and activities to reduce the physical ''footprint'' of LANL and improve efficiency and address the LANL Land Transfer requirements of Public Law 105–119. NNSA also will continue to coordinate with the DOE's Office of Environmental Management to execute environmental closure and remediation actions including major material disposal area (MDA) remediation, canyon cleanups and all activities necessary to meet Consent Order requirements, the LANL Federal Facility Compliance Agreement, and DOE commitments regarding the use of resources provided through the American Recovery and Reinvestment Act of 2009 (ARRA) (Pub. L. 111–5).

Environmental Impacts Associated With Decisions

In making the decisions announced in this ROD, NNSA considered the potential impacts for normal operations (those operations without accidents or intentional destructive acts) as well as impacts analyzed in the SWEIS from potential accidents and intentional destructive acts, including credible terrorism scenarios, on workers and surrounding populations, as it did in developing the 2008 ROD. NNSA also evaluated the potential impacts associated with the irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. These analyses and results are described in the Summary and Chapters 4 and 5 of the SWEIS. Additional project specific analyses are included in the Appendices to the SWEIS.

Decisions

Operations at LANL provide a wide range of scientific and technological capabilities for NNSA's National Nuclear Security Enterprise (Nuclear Weapons Complex). NNSA's decisions are based on its current and anticipated mission responsibilities and its need to continue to operate LANL in a manner that allows NNSA to efficiently and effectively fulfill its mission responsibilities in an environmentally protective and fiscally prudent manner. The need for the decisions identified in this ROD exists regardless of any future decisions that may be made about the level of plutonium pit production at LANL. National security policies and related laws require NNSA to maintain the Nation's nuclear weapons stockpile, as well as its core competencies in nuclear weapons. The nuclear facilities at LANL are essential to NNSA's ability to execute this core program and to support NNSA's aggressive and far-reaching nuclear non-proliferation efforts. The changes in operations and new projects announced in this ROD are needed to fulfill NNSA and DOE mission responsibilities and meet various requirements that have arisen since 1999, and are consistent with recent decisions regarding the nuclear weapons complex transformation.

Consistent with the decisions announced in the first ROD under the SWEIS, NNSA and DOE's Office of Environmental Management will continue to implement actions required by the March 2005 Consent Order along with other activities needed for environmental cleanup at LANL:

(1) Analytical chemistry sample processing, waste management activities such as waste characterization operations and waste processing, storage and transportation actions, as well as waste disposal at appropriate waste disposal facilities located both on-site and off-site; (2) the clearing of site vegetation; (3) decontamination, decommissioning and demolition (DD&D) of structures and buildings with priority to those that must be removed to reach buried contamination; (4) exhumation of buried contamination; (5) exhumation and transportation of soil and rock from on-site borrow pits; (6) construction of roads to reach sites with heavy equipment, lay-down areas for equipment and materials and waste storage and staging, and parking sites to meet the needs of vehicles involved in transporting wastes, equipment and materials; and (7) delineation and fencing of clean-up sites.

Environmental cleanup projects that will be undertaken and completed under this ROD include:

• Completing the remediation and closure of TA–18 Pajarito Site. This would include relocating remaining operations to existing facilities within LANL, performing the DD&D of existing site structures and completing remediation of the TA–18 canyon-bottom site.

• Completing the remediation and closure of TA–21 Delta Prime (DP) Site with an emphasis on DD&D and environmental remediation of MDAs. This would include the DD&D of the TA–21 buildings. Those structures that cover or could interfere with activities to investigate and remediate MDAs and other potential release sites under the Consent Order would be given priority. Both DP West and DP East facilities will undergo DD&D and thorough characterization, decontamination, and demolition, with waste disposal dependent on facility characterization information. The underlying waste sites can then be properly investigated, considered for corrective actions that may be required under the Consent Order and remediated as appropriate.

The NNSA has also decided to implement the additional projects specified in this ROD that involve the design, construction and operation of new replacement buildings, and the renovation of certain existing facilities. This decision includes the implementation of all associated actions needed to facilitate construction or renovation projects, including those related to the transfer of operations, and those necessary for the DD&D of spaces vacated by moving existing facilities. These projects are part of the vision that NNSA has established for the future Nuclear Security Enterprise.

NNSA's vision for the future remains a smaller, safer, more secure and less expensive enterprise that leverages the scientific and technical capabilities of its workforce to meet all our national security requirements. The specific projects that NNSA has decided to implement are:

• Refurbish the Plutonium Facility Complex (PF–4) at TA–55: This refurbishment project consists of seven subprojects that either replace or upgrade obsolete and/or worn-out facility components/safety systems or address regulatory-driven requirements at the PF–4 building in TA–55. Replacement and maintenance of critical infrastructure and safety systems is necessary to ensure the reliability of this facility and compliance with safety and regulatory requirements.

• Construct and operate a new Radioactive Liquid Waste Treatment Facility, (RLWTF), at TA–50 together with the operation of a zero liquid discharge facility at TA–52 as an auxiliary action: These actions replace/restore an existing capability at LANL for processing radioactive liquid wastes. The existing RLWTF at TA–50 is the only facility available at LANL to treat a broad range of transuranic and low-level radioactive liquid wastes. It is an aging facility (over 40 years old) that has exceeded its design life.

• Install additional processors and equipment as necessary to further expand the capabilities and operation level of the Nicholas C. Metropolis Center for Modeling and Simulation at TA–3: These actions will be undertaken to support future operations up to the level of operations analyzed in the SWEIS as attainable through the consumption of a maximum electric power use of 15 megawatts, and a maximum potable water use of 51 million gallons per year. Calculations performed at the Nicholas C. Metropolis Center support the continued certification of the nuclear weapons stockpile without conducting underground nuclear tests, and also support research on global energy challenges and other scientific issues.

• Construct and operate a new Science and Engineering Complex at TA–62 (analyzed as the Science Complex Option 1 in Appendix G of the SWEIS): This action consolidates offices and light laboratories currently located in several outmoded structures at LANL into a new, state-of-the-art facility of approximately 400,000 gsf. It would support scientific research activities in both basic and applied sciences. Execution of this project would be accompanied by DD&D of excess structures at LANL.

The NNSA will implement changes to operational levels at existing facilities and install new infrastructure analyzed as part of the Expanded Operations Alternative that support decisions announced in this ROD, the 2008 SWEIS ROD and the two SPEIS RODs. The changes to on-going operational levels at existing facilities (and their replacement facilities) include: (1) Changes and increases to the capabilities for waste storage, characterization, packaging, and labeling at solid and liquid radioactive waste and chemical waste management and treatment facilities to support the processing and disposition of transuranic, low-level and mixed low-level radioactive waste, and chemical waste from site DD&D activities; and (2) the performance of site assessments, soil remediation, and the enhancement of field capabilities to support of environmental remediation and risk mitigation at LANL.

Mitigation Measures

As described in the SWEIS, NNSA and LANL operate pursuant to a number of Federal laws including environmental laws, DOE Orders, and Federal, State, and local controls, and agreements. Many of these mandate actions that serve to mitigate potential adverse environmental impacts. A Los Alamos Mitigation Action Plan (MAP) for the SWEIS RODs has been issued and will be reviewed and updated as necessary to implement this ROD. As discussed in the 2008 ROD, this MAP contains a summary of all commitments for LANL that are either underway or will be initiated. These commitments include such actions as continued forest management efforts, trail management efforts, and implementation of a variety of site sampling and monitoring measures, as well as additional measures to reduce potable water use and pollutant emissions and implement resource conservation initiatives.

In addition, with respect to concerns raised by the Santa Clara Pueblo, as discussed in the 2008 ROD, NNSA will continue its efforts to support the Pueblo and other tribal entities in matters of human health and will participate in various intergovernmental efforts to protect indigenous practices and locations of concern. NNSA will conduct government-to-government consultations with the Pueblo and other tribal entities to incorporate these matters into the MAP.

Issued at Washington, DC, this 29 day of June 2009.

Thomas P. D'Agostino,

Administrator, National Nuclear Security Administration.

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DEPARTMENT OF ENERGY

Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Operations Involving Plutonium, Uranium, and the Assembly and Disassembly of Nuclear Weapons

AGENCY: National Nuclear Security Administration, U.S. Department of Energy.

ACTION: Record of decision.

SUMMARY: The National Nuclear Security Administration (NNSA), a separately organized agency within the U.S. Department of Energy (DOE), is issuing this Record of Decision (ROD) for the continued transformation of the nuclear weapons complex (Complex). This ROD is based on information and analyses contained in the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) (DOE/EIS–0236–S4) issued on October 24, 2008 (73 FR 63460); comments received on the SPEIS; other NEPA analyses as noted; and other factors, including cost, technical and security considerations, and the missions of NNSA. The SPEIS analyzes the potential environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more efficient enterprise that can respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile.

The alternatives analyzed in the SPEIS are divided into two categories: programmatic and project-specific. Programmatic alternatives involve the restructuring of facilities that use or store significant (i.e., Category I/II) quantities of special nuclear material (SNM).[1] These facilities produce plutonium components (commonly called pits [2]), produce highly enriched uranium (HEU) components (including secondaries [3]), fabricate high explosives (HE) components, and assemble and disassemble nuclear weapons. The decisions announced in this ROD relate to the programmatic alternatives analyzed in the SPEIS. NNSA is issuing a separate ROD relating to the project-specific alternatives.

NNSA has decided to implement its preferred programmatic alternative as described in the SPEIS and summarized in this ROD. This decision will transform the plutonium and uranium manufacturing aspects of the complex into smaller and more efficient operations while maintaining the capabilities NNSA needs to perform its national security missions. The three major elements of the decisions announced in this ROD are:

(1) Manufacturing and research and development (R&D) involving plutonium will remain at the Los Alamos National Laboratory (LANL) in New Mexico. To support these activities, NNSA will construct and operate the Chemistry and Metallurgy Research Replacement–Nuclear Facility (CMRR–NF) at LANL as a replacement for portions of the Chemistry and Metallurgy Research (CMR) facility, a structure that is more than 50 years old

[1] As defined in section 11 of the *Atomic Energy Act of 1954,* special nuclear material is: (1) Plutonium, uranium enriched in the isotope 233 or in the isotope 235 and any other material which the U.S. Nuclear Regulatory Commission determines to be special nuclear material; or (2) any material artificially enriched by any of the foregoing. Special nuclear material is separated into Security Categories I, II, III, and IV based on the type, attractiveness level, and quantity of the material. Categories I and II require the highest level of security.

[2] A pit is the central core of a nuclear weapon, principally made of plutonium or enriched uranium.

[3] A secondary is the component of a nuclear weapon that contains elements needed to initiate the fusion reaction in a thermonuclear explosion.

and faces significant safety and seismic challenges to its continued operation.

(2) Manufacturing and R&D involving uranium will remain at the Y–12 National Security Complex in Tennessee. NNSA will construct and operate a Uranium Processing Facility (UPF) at Y–12 as a replacement for existing facilities that are more than 50 years old and face significant safety and maintenance challenges to their continued operation.

(3) Assembly and disassembly of nuclear weapons and high explosives production and manufacturing will remain at the Pantex Plant in Texas.

These decisions will best enable NNSA to meet its statutory mission while minimizing technical risks, risks to mission objectives, costs, and environmental impacts. These decisions continue the transformation begun following the end of the Cold War and the cessation of nuclear weapons testing, particularly decisions announced in the 1996 ROD for the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) (DOE/EIS–0236) (61 FR 68014; Dec. 26, 1996). This ROD explains why NNSA is making these programmatic decisions, why it is appropriate to make them at this time, and the flexibility NNSA has to adapt these decisions as needed in response to any changes in national security requirements that may occur in the near term.

FOR FURTHER INFORMATION CONTACT: For further information on the Complex Transformation SPEIS or this ROD, or to receive copies of these, contact: Ms. Mary E. Martin, NNSA NEPA Compliance Officer, Office of Environmental Projects and Operations, NA–56, U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, toll free 1–800–832–0885 ext. 69438. A request for a copy of the SPEIS or this ROD may be sent by facsimile to 1–703–931–9222, or by e-mail to *complextransformation@nnsa.doe.gov*. The SPEIS, this ROD, the project-specific ROD, and additional information regarding complex transformation are available at *http://www.ComplexTransformationSPEIS.com* and *http://www.nnsa.doe.gov*.

For information on DOE's NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC–20), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, 202–586–4600, or leave a message at 800–472–2756. Additional information regarding DOE NEPA activities and access to many DOE NEPA documents are available through the DOE NEPA Web site at: *http://www.gc.energy.gov/NEPA*.

SUPPLEMENTARY INFORMATION:

Background

NNSA prepared this ROD pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing the *National Environmental Policy Act* (NEPA) (40 CFR Parts 1500–1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). This ROD is based on information and analyses contained in the *Complex Transformation Supplemental Programmatic Environmental Impact Statement* (SPEIS) (DOE/EIS–0236-S4) issued on October 24, 2008 (73 FR 63460); comments received on the SPEIS; other NEPA analyses as noted; other factors, including cost, technical and security considerations, and the missions of NNSA. NNSA received approximately 100,000 comment documents on the Draft SPEIS from Federal agencies; state, local, and tribal governments; public and private organizations; and individuals. In addition, during the 20 public hearings that NNSA held, more than 600 speakers made oral comments.

National security policies require DOE, through NNSA, to maintain the United States' nuclear weapons stockpile, as well as the nation's core competencies in nuclear weapons. Since completing the SSM PEIS and associated ROD in 1996, DOE has pursued these objectives through the Stockpile Stewardship Program. This program emphasizes development and application of greatly improved scientific and technical capabilities to assess the safety, security, and reliability of existing nuclear warheads without nuclear testing. Throughout the 1990s, DOE also took steps to consolidate the Complex to its current configuration of three national laboratories (and a flight test range operated by Sandia National Laboratories), four industrial plants, and a nuclear test site. This Complex enables NNSA to design, develop, manufacture, maintain, and repair nuclear weapons; certify their safety, security, and reliability; conduct surveillance on weapons in the stockpile; store Category I/II SNM; and dismantle and disposition retired weapons. Sites within the Complex and their current weapons program missions are described in the following paragraphs.

Lawrence Livermore National Laboratory (LLNL), Livermore, California—LLNL conducts research, design, and development of nuclear weapons; designs and tests advanced technology concepts; provides safety, security, and reliability assessments and certification of stockpile weapons; conducts plutonium and tritium R&D, hydrotesting, HE R&D and environmental testing; and stores Category I/II quantities of SNM. LLNL also conducts destructive and nondestructive surveillance evaluations on pits to evaluate their reliability. NNSA is currently removing Category I/II SNM from the site and by 2012 LLNL will not maintain these categories of SNM. NNSA is constructing the National Ignition Facility (NIF) at LLNL, which will allow a wide variety of high-energy-density investigations. NIF is scheduled to begin operations in 2009.

Los Alamos National Laboratory (LANL), Los Alamos, New Mexico—LANL conducts research, design, and development of nuclear weapons; designs and tests advanced technology concepts; provides safety, security, and reliability assessments and certification of stockpile weapons; maintains production capabilities for limited quantities of plutonium components (i.e., pits) for delivery to the stockpile; manufactures nuclear weapon detonators for the stockpile; conducts plutonium and tritium R&D, hydrotesting, HE R&D and environmental testing; and stores Category I/II quantities of SNM. LANL also conducts destructive and nondestructive surveillance evaluations on pits to assess their reliability.

Nevada Test Site (NTS), 65 miles northwest of Las Vegas, Nevada—NTS maintains the capability to conduct underground nuclear testing; conducts high hazard experiments involving nuclear material and high explosives; provides the capability to process and dispose of a damaged nuclear weapon or improvised nuclear device; conducts non-nuclear experiments; conducts hydrodynamic testing and HE testing; conducts research and training on nuclear safeguards, criticality safety, and emergency response; and stores Category I/II quantities of SNM.

Pantex Plant (Pantex), Amarillo, Texas—Pantex dismantles retired weapons; fabricates HE components, and performs HE R&D; assembles HE, nuclear, and non-nuclear components into nuclear weapons; repairs and modifies weapons; performs nonintrusive pit modification;[4] and evaluates and performs surveillance of weapons. Pantex stores Category I/II

[4] Nonintrusive pit modification involves changes to the external surfaces and features of a pit.

quantities of SNM for the weapons program and stores other SNM in the form of surplus plutonium pits pending transfer to SRS for disposition.

Savannah River Site (SRS), Aiken, South Carolina—SRS extracts tritium and performs loading, unloading, and surveillance of tritium reservoirs, and conducts tritium R&D. SRS does not store Category I/II quantities of SNM for NNSA's weapons activities, but does store Category I/II quantities for other DOE activities. SRS is currently receiving Category I/II surplus, non-pit plutonium from LLNL for storage pending its disposition.

Y–12 National Security Complex (Y–12), Oak Ridge, Tennessee—Y–12 manufactures uranium components for nuclear weapons, cases, and other nuclear weapons components; evaluates and tests these components; stores Category I/II quantities of HEU; conducts dismantlement, storage, and disposition of HEU; and supplies HEU for use in naval reactors.

The following two sites are part of the Complex but would not be affected by decisions announced in this ROD.

Kansas City Plant (KCP), Kansas City, Missouri—KCP manufactures and procures non-nuclear components for nuclear weapons and evaluates and tests these components. KCP has no SNM. The General Services Administration, as the lead agency, and NNSA, as a cooperating agency, prepared an Environmental Assessment (DOE/EA–1592, Apr. 2008) regarding the potential environmental impacts of modernizing the facilities and infrastructure for the non-nuclear production activities conducted by the KCP as well as moving these activities to other locations. The agencies issued a Finding of No Significant Impact (73 FR 23244; Apr. 29, 2008) regarding an alternative site in the Kansas City area. The SPEIS does not assess alternatives for the activities conducted at the KCP.

Sandia National Laboratories (SNL), Albuquerque, New Mexico; Livermore, California; and other locations—SNL conducts systems engineering of nuclear weapons; conducts research, design, and development of non-nuclear components; manufactures non-nuclear components, including neutron generators, for the stockpile; provides safety, security, and reliability assessments of stockpile weapons; and conducts HE R&D, tritium R&D, and environmental testing. The principal laboratory is located in Albuquerque, New Mexico (SNL/NM); a division of the laboratory (SNL/CA) is located in Livermore, California. SNL also operates the Tonopah Test Range (TTR) near Tonopah, Nevada, for flight testing of gravity weapons (including R&D and testing of nuclear weapons components and delivery systems). In 2008, NNSA completed the removal of SNL/NM's Category I/II SNM. SNL/NM no longer stores or uses these categories of SNM on an ongoing basis, although it may use Category I/II SNM for limited periods in the future. No SNM is stored at TTR, although some test operations have involved SNM.

Alternatives Considered

NNSA has been considering how to continue the transformation of the Complex since the Nuclear Posture Review [5] was transmitted to Congress by the Department of Defense in early 2002. NNSA considered the Stockpile Stewardship Conference in 2003, the Department of Defense Strategic Capabilities Assessment in 2004, the recommendations of the Secretary of Energy Advisory Board Task Force on the Nuclear Weapons Complex Infrastructure in 2005, and the Defense Science Board Task Force on Nuclear Capabilities in 2006 as to how transformation should continue. Based on these studies and other information, NNSA developed the range of reasonable alternatives for the Complex that could reduce its size, reduce the number of sites with Category I/II SNM (and storage locations for these categories of SNM within sites), eliminate redundant activities, and improve the responsiveness of the Complex. The following programmatic capabilities involving SNM are evaluated in the SPEIS:

- Plutonium operations, including pit manufacturing; Category I/II SNM storage; and related R&D;
- Enriched uranium operations, including canned subassembly manufacturing, assembly, and disassembly; Category I/II SNM storage; and related R&D; and
- Weapons assembly and disassembly and HE production (collectively, A/D/HE).

The programmatic alternatives analyzed in the SPEIS are discussed in the following paragraphs.

No Action Alternative. NNSA evaluated a No Action Alternative, which represents continuation of the status quo including implementation of past decisions. Under the No Action Alternative, NNSA would not make additional major changes to the SNM missions now assigned to its sites.

Programmatic Alternative 1: Distributed Centers of Excellence. This alternative would locate the three major SNM functional capabilities (plutonium, uranium, and weapons assembly and disassembly) involving Category I/II quantities of SNM at two or three separate sites. This alternative would create a consolidated plutonium center (CPC) for R&D, storage, processing, and manufacture of pits. Production rates of up to 125 pits per year for single shift operations and up to 200 pits annually for multiple shifts and extended work weeks are assessed for a CPC in this alternative. A CPC could consist of new facilities, or modifications to existing facilities at LANL, NTS, Pantex, SRS, or Y–12. The SPEIS also evaluated an option under this alternative that would upgrade facilities at LANL to produce up to 80 pits per year. This option would involve the construction and operation of the CMRR-NF. Highly-enriched uranium storage and uranium operations would continue at Y–12. Under this alternative, NNSA analyzed two options—construction of a new UPF and an upgrade of existing facilities at Y–12. The weapons A/D/HE mission would remain at Pantex under this programmatic alternative.

Programmatic Alternative 2: Consolidated Centers of Excellence. NNSA would consolidate the three major SNM functions (plutonium, uranium, and weapons assembly and disassembly) involving Category I/II quantities of SNM at one or two sites under this alternative. Two options were assessed: (1) The single site option (referred to as the consolidated nuclear production center [CNPC] option); and (2) the two-site option (referred to as the consolidated nuclear centers [CNC] option). Under the CNPC option, a new CNPC could be established at LANL, NTS, Pantex, SRS, or Y–12. Under the CNC option, the plutonium and uranium component manufacturing missions would be separate from the A/D/HE mission. The Consolidated Centers of Excellence Alternative assumed production rates of up to 125 weapons per year for single shift operations and up to 200 weapons annually for multiple shifts and extended work weeks.

Programmatic Alternative 3: Capability-Based Alternative. Under this alternative, NNSA would maintain a basic capability for manufacturing components for all stockpile weapons, as well as laboratory and experimental capabilities to support stockpile stewardship, but would reduce production facilities in-place such that NNSA would produce only a nominal level of replacement components (approximately 50 components per year). Within this alternative, NNSA

[5] The Nuclear Posture Review is a comprehensive analysis that lays out the direction for the United States' nuclear forces.

also evaluated a No Net Production/Capability-Based Alternative, in which NNSA would maintain capabilities to continue surveillance of the weapons stockpile, produce limited life components, and dismantle weapons, but would not add new types or increased numbers of weapons to the stockpile. This alternative involves minimum production (i.e., production of 10 sets of components or assembly of 10 weapons per year) within facilities with a larger manufacturing capability. Both options of this alternative would involve the construction and operation of a CMRR–NF.

Preferred Alternative

The Final SPEIS identified the following preferred alternatives for restructuring facilities that use significant quantities of SNM:

- Plutonium R&D and manufacturing: LANL would provide a consolidated plutonium research, development, and manufacturing capability within TA–55 (the Technical Area at LANL containing plutonium processing facilities) enabled by construction and operation of the CMRR-NF. The CMRR-NF would replace the existing CMR facility (a 50-year-old facility that has significant safety issues that cannot be addressed in the existing structure), to support transfer of plutonium R&D and Category I/II quantities of SNM from LLNL, and consolidation of weapons-related plutonium operations, including plutonium R&D and storage of Category I/II quantities of SNM, at LANL. Until completion of a new Nuclear Posture Review in 2009 or later, the net production at LANL would be limited to a maximum of 20 pits per year. Other national security actinide missions (e.g., emergency response, material disposition, nuclear energy) would continue at TA–55.
- Uranium manufacturing and R&D: Y–12 would continue as the uranium center, producing components and canned subassemblies, and conducting surveillance and dismantlement. NNSA completed construction of the Highly Enriched Uranium Materials Facility (HEUMF) in 2008 and will consolidate HEU storage in that facility.[6] NNSA would build a UPF at Y–12 to provide a smaller and modern highly-enriched uranium production capability, replacing 50-year-old facilities.
- Assembly/disassembly/high explosives production and manufacturing: Pantex would remain the assembly/disassembly/high explosives production and manufacturing center. NNSA would consolidate non-destructive weapons surveillance operations at Pantex.
- Consolidation of Category I/II SNM: NNSA would continue ongoing actions to transfer Category I/II SNM from LLNL under the No Action Alternative and phase out Category I/II operations at LLNL by the end of 2012.

Environmentally Preferable Alternative

Section 101 of NEPA (42 U.S.C. 4331) establishes a policy of federal agencies having a continuing responsibility to improve and coordinate their plans, functions, programs, and resources so that, among other goals, the nation may fulfill its responsibilities as a trustee of the environment for succeeding generations. The CEQ, in its ''Forty Most Asked Questions Concerning CEQ's NEPA Regulations'' (46 FR 18026; Mar. 23, 1981), defines the ''environmentally preferable alternative'' as the alternative ''that will promote the national environmental policy expressed in NEPA's Section 101.''

The analyses in the SPEIS of the environmental impacts associated with the programmatic alternatives indicated that the No Net Production/Capability-Based Alternative is environmentally preferable. This alternative would result in the minimum infrastructure demands (e.g., electricity and water use would be reduced by almost 50 percent at some sites); produce the least amount of wastes (radioactive wastes would be reduced by approximately 33–50 percent compared to the No Action Alternative); reduce worker radiation doses (by approximately 33–50 percent compared to the No Action Alternative); and require the fewest employees (up to 40 percent fewer at some sites). Almost all of these reductions in potential impacts result from the reduced production levels assumed for this alternative.

Alternatives Considered but Eliminated From Detailed Study

NNSA considered programmatic alternatives other than those described above, but concluded that these alternatives were not reasonable and eliminated them from detailed analysis. As discussed in the SPEIS, the following alternatives were considered but eliminated from detailed study: (1) Consolidate the Three Nuclear Weapons Laboratories (LLNL, LANL and SNL); (2) Curatorship Alternative; (3) Smaller CNPC Alternative; (4) New CPC with a Smaller Capacity; (5) Purchase Pits; (6) Upgrade Building 332 at LLNL to enable pit production; (7) Consider Other Sites for the CPC; (8) Redesign Weapons to Require Less or No Plutonium; and (9) Do Not Produce New Pits (see Section 3.15, Volume I of the SPEIS).

Decisions

With respect to the three major SNM functional capabilities (plutonium, uranium, and weapons assembly and disassembly) involving Category I/II quantities of SNM, NNSA has decided to keep these functional capabilities at three separate sites:

- Plutonium manufacturing and R&D will remain at LANL, and NNSA will construct and operate the CMRR-NF there to support these activities;
- Uranium manufacturing and R&D will remain at Y–12 and NNSA will construct and operate a UPF there to support these activities;
- Assembly/disassembly/high explosives production and manufacturing will remain at Pantex.

With respect to SNM consolidation, NNSA will continue ongoing activities[7] to transfer Category I/II SNM from LLNL under the No Action Alternative and phase out Category I/II operations at LLNL by the end of 2012.

Bases for Decisions

Overview

NNSA's decision locates the three major functional capabilities involving Category I/II quantities of SNM at three separate sites where these missions are currently performed. The selected alternative, which is a combination of the Distributed Centers of Excellence and Capability-Based Alternatives, has the least cost and lowest risk. Consolidation or transfer of uranium and plutonium operations to other sites (as analyzed in several options under the Distributed and Consolidated Centers of Excellence Alternatives) could result in lower operational costs and other benefits if and when such an alternative were fully implemented. However, movement of any of these three major capabilities to another site poses unacceptable programmatic risks and would cost far more than the selected alternative for an extended period of time. Moving one or more of these capabilities would take years to achieve and might be unsuccessful; in the interim, NNSA would need to build some new facilities at the sites where these capabilities are currently located

[6] The environmental impacts of HEUMF and its alternatives are analyzed in the *Site-wide Environmental Impact Statement for the Y–12 National Security Complex* (DOE/EIS–0309, 2001); NNSA announced its decision to construct and operate HEUMF on March 13, 2002 (67 FR 11296).

[7] In regard to surplus, non-pit, weapons-usable plutonium currently at LLNL, transfer to SRS for storage pending disposition is being undertaken consistent with decisions announced on September 11, 2007, in an Amended ROD (72 FR 51807) based on the *Storage and Disposition of Weapons-Usable Fissile Materials Programmatic EIS.*

simply to maintain those capabilities during the relocation process.

Similarly, the No Action Alternative is unacceptable because it would require NNSA to continue operations in facilities that are outdated, too costly to operate, and not capable of meeting modern environment, health and safety (ES&H) or security standards. These facilities cannot be relied upon much longer, and must be replaced or closed.

Under NNSA's decision, plutonium operations remain at LANL. It will not construct a new pit manufacturing facility such as a CPC or a CNPC because it appears unlikely there will be a need to produce more than 10–80 pits per year in the future and because constructing these facilities would be very expensive. Instead, NNSA will upgrade the existing plutonium facilities at the laboratory and will construct a CMRR–NF.[8] Construction of this facility is a needed modernization of LANL's plutonium capabilities—continued use of the existing CMR facility is inefficient and poses ES&H and security issues that cannot be addressed by modifying the CMR. Uranium operations remain at Y–12, and NNSA will construct a UPF because the existing uranium production facilities are also beyond their useful lives, inefficient, and present ES&H and security issues similar to those at CMR. CMRR–NF and UPF will be safer, seismically robust, and easier to defend from potential terrorist attacks. Their size will support production rates appropriate for a reasonable range of future stockpile sizes, and would not be much smaller if future production rates were much lower than currently anticipated.[9]

[8] NNSA prepared an *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (CMRR EIS) (DOE/EIS–0350). The CMRR EIS evaluates potential impacts of the proposed relocation of analytical chemistry and materials characterization activities and associated R&D to a new CMRR. The proposed CMRR consists of a nuclear facility—CMRR–NF—and a separate radiological laboratory, administrative office, and support building. See also the 2008 *Site-Wide Environmental Impact Statement for Los Alamos National Laboratory* (2008 LANL SWEIS, DOE/EIS–0380). In deciding to construct the CMRR–NF at LANL, NNSA considered the analyses in the CMRR EIS and the 2008 LANL SWEIS, as well as those in the SPEIS.

[9] NNSA evaluated various sizes for facilities analyzed in the SPEIS to determine if smaller facilities should be considered in detail for the Distributed and Consolidated Centers of Excellence Alternatives. NNSA evaluated the programmatic risk, cost effectiveness, and environmental impacts of smaller facilities and concluded that smaller facilities were not reasonable for some of these alternatives (see Section 3.15 of the SPEIS). Smaller facilities were considered for the Capability-Based Alternative.

Plutonium Operations

With respect to plutonium manufacturing, NNSA is not making any new decisions regarding production capacity until completion of a new Nuclear Posture Review in 2009 or later. NNSA does not foresee an imminent need to produce more than 20 pits per year to meet national security requirements. This production level was established almost 10 years ago in the ROD (64 FR 50797, Sept. 20, 1999) based on the *Site-wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory* (1999 LANL SWEIS; DOE/EIS–0238). The ROD based on the 2008 LANL SWEIS (DOE/EIS–0380) continued this limit on production (73 FR 55833; Sept. 26, 2008). NNSA will continue design of a CMRR–NF that would support a potential annual production (in LANL's TA–55 facilities) of 20–80 pits. The design activities are sufficiently flexible to account for changing national security requirements that could result from a new Nuclear Posture Review, further changes to the size of stockpile, or future Federal budgets. Furthermore, because NNSA's sensitivity analyses have shown that there is little difference in the size of a facility needed to support production rates between 1 and 80 components per year, the future production capacity is not anticipated to have a significant impact on the size of the CMRR–NF.[10] With a new CMRR–NF providing support, the existing plutonium facility at LANL will have sufficient capability to produce between 1 and 80 pits per year. A new CMRR–NF will also allow NNSA to better support national security missions involving plutonium and other actinides (including, e.g., the plutonium-238 heat source program undertaken for the National Aeronautics and Space Administration (NASA); non-proliferation programs, including the sealed source recovery program; emergency response; nuclear counter-terrorism; nuclear forensics; render safe program (program to disable improvised nuclear devices); material disposition; and nuclear fuel research and development).

Uranium Operations

With respect to uranium manufacturing, NNSA will maintain the current capacity in existing facilities at Y–12 as discussed in Section 3.5 of the SPEIS and within the planning basis discussed in Section 3.1.2 of the 2001 *Site-wide Environmental Impact Statement for the Y–12 National Security Complex* (2001 Y–12 SWEIS; DOE/EIS–0309). NNSA is preparing a new SWEIS for Y–12 (*Site-wide Environmental Impact Statement for the Y–12 National Security Complex, Oak Ridge, Tennessee* (Y–12 SWEIS; DOE/EIS–0387)), which will evaluate site-specific issues associated with continued production operations at Y–12, including issues related to construction and operation of a UPF such as its location and size. The Y–12 SWEIS will consider any new information (such as a new Nuclear Posture Review or further changes to the stockpile) that becomes available during the preparation of that document.

[10] *See* note 9 *supra*.

Assembly and Disassembly of Weapons and High Explosives Production

NNSA will continue to conduct these operations at Pantex as announced in the ROD (62 FR 3880; Jan. 27, 1997) for the *Environmental Impact Statement for the Continued Operation of the Pantex Plant and Associated Storage of Nuclear Weapon Components* (DOE/EIS–0225, 1996).

Production Rates and New Facilities

While NNSA is not making any new decisions regarding the production rates of plutonium or uranium components, it has decided that a CMRR–NF and UPF are essential to its ability to meet national security requirements regarding the nation's nuclear deterrent. The existing facilities where these operations are now conducted cannot be used much longer and cannot be renovated in a manner that is either affordable or acceptable (from ES&H, security, and production perspectives). As NNSA continues the design and, in the case of a UPF, NEPA analysis of these facilities, it can modify them to reflect changing requirements such as those resulting from a new Nuclear Posture Review, further changes to stockpile size, and future federal budgets. In short, a CMRR–NF and UPF are needed for NNSA to maintain its basic nuclear weapons capabilities because they would replace outdated and deteriorating facilities. These facilities are needed regardless of how many or what types of weapons may be called for in the future.

National Security Requirements and Stockpile Size

In making these decisions, NNSA considered its statutory responsibilities to support the nuclear weapons stockpile as determined by the President and the Congress. President Bush's goal is to achieve a credible nuclear deterrent with the lowest possible number of nuclear warheads consistent with national security needs. In 2002, he and Russia's President Putin signed the Moscow Treaty, under which the United States and Russia will each reduce the number of operationally deployed strategic nuclear weapons to 1,700–2,200 by 2012. In 2004, President Bush issued a directive to cut the entire U.S. stockpile—both deployed and reserve warheads—in half by 2012. This goal was later accelerated and achieved in 2007, five years ahead of schedule. At the end of 2007, the total stockpile was almost 50 percent below what it was in 2001. On December 18, 2007, the White House announced the President's decision to reduce the entire nuclear weapons stockpile by another 15 percent by 2012. This means the U.S. nuclear stockpile will be less than one-quarter its size at the end of the Cold War—the smallest stockpile since the Eisenhower Administration.

NNSA's analyses in the SPEIS are based on current national policy regarding stockpile size (1,700–2,200 operationally deployed strategic nuclear warheads by 2012) with flexibility to respond to future Presidential direction to make further changes in the numbers of weapons. Maintaining a stockpile requires the ability to detect aging effects and other changes in weapons (a surveillance program), the ability to fix identified problems without nuclear testing (the stockpile stewardship program), and the ability to produce replacement components and reassemble weapons (a fully capable set of production facilities).

NNSA understands that at least two major reviews of the requirements for the future nuclear weapons program are expected during the next year. These reviews may influence the size and composition of the future nuclear weapons stockpile, and the nuclear infrastructure required to support that stockpile. First, the Congress has established the Congressional Commission on the Strategic Posture of the United States. This commission is to conduct a review of the strategic posture of the United States, including a strategic threat assessment and a detailed review of nuclear weapons policy, strategy, and force structure. Its recommendations, currently scheduled for completion in the spring of 2009, are expected to address the size and nature of the future nuclear weapons stockpile, and the capabilities required to support that stockpile. Second, Congress has directed the Administration to conduct another Nuclear Posture Review in 2009 to clarify the United States' nuclear deterrence policy and strategy for the near term (i.e., the next 5–10 years). A report on this Nuclear Posture Review is due on December 1, 2009.

NNSA has structured its programs and plans in a manner that allows it to continue transforming the complex and to replace antiquated facilities while retaining the flexibility to respond to evolving national security requirements, which is essential for a truly responsive infrastructure. The decisions in this ROD allow NNSA to continue to rely on LANL facilities (with a new CMRR–NF) to provide maximum flexibility to respond to future changes in plutonium requirements.

Costs, Technical Risks, and Other Factors

NNSA prepared detailed business case studies of the programmatic alternatives. These studies are available at *http://www.ComplexTransformationSPEIS.com*. They provide a cost comparison of the alternatives and include costs associated with construction, transition, operations, maintenance, security, decontamination and decommissioning, and other relevant factors.[11] Based on these studies, NNSA determined that the costs through 2030 for the consolidation alternatives would be approximately 20–40 percent greater than for the alternatives that would maintain the three major capabilities—plutonium operations, uranium operations, and A/D/HE operations—at their current sites. Additionally, NNSA's analysis found that, through 2060, the costs for the consolidation alternatives would be greater than those for the alternatives that maintain the three capabilities where they are currently located.

With respect to technical risk, as part of the business case studies, NNSA evaluated five types of risk: (1) Engineering and construction; (2) implementation; (3) program; (4) safety and regulatory; and (5) security. These analyses balance nearer-term risks incurred while transitioning to an alternative with longer-term operational risks. For example, consolidation alternatives would have higher risks during the transition due to the challenges associated with mission relocations, but could have lower long-term operational risks because of reduced safety, regulatory, or security risks. All risk criteria were rated equally (20 percent each); a sensitivity analysis determined that the conclusions were not significantly affected by adjustments of plus or minus five percent in risk rating criteria.

The risk assessment was performed by a group of NNSA and contractor employees who are subject-matter experts, site experts, or both. The least risky options are those where the sites have previous experience with the mission or the nuclear material used in that mission. Alternatives that would locate the plutonium mission at LANL or SRS, the uranium mission at Y–12, and the weapons assembly and disassembly mission at Pantex, were determined to pose the lowest risk. Overall, the consolidation alternatives were judged to have 25–160 percent more technical risk than alternatives that would not consolidate or relocate missions.

With respect to plutonium R&D and manufacturing, the cost and risk analyses showed that keeping this mission at LANL has the least cost and poses the lowest risk. This results primarily from the fact that plutonium facilities are very expensive to construct and LANL has existing facilities, infrastructure, and trained personnel that can be used for this mission.

The CMRR–NF was analyzed in the *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE/EIS–0350, Nov. 2003). The CMRR EIS evaluated potential environmental impacts of the proposed relocation of analytical chemistry and materials characterization activities and associated R&D to a new CMRR. Following completion of that EIS, NNSA announced its decision to construct and operate a CMRR consisting of two main buildings, one of which was the CMRR–NF (69 FR 6967; Feb. 12, 2004). The second building—providing laboratory, administrative, and support functions—currently is under construction at LANL. However, NNSA decided to defer a decision regarding construction and operation of the CMRR–NF until it completed the Complex Transformation SPEIS (see Section 1.5.2.1, Volume 1 of the SPEIS).

Analyses of the potential impacts of constructing and operating the CMRR–NF were updated in the *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (2008 LANL SWEIS; DOE/EIS–0380, May 2008) as part of the Expanded Operations and the No Action Alternatives. In a ROD based on the 2008 LANL SWEIS, NNSA announced its decision to continue to implement the No Action Alternative with the

[11] The cost analyses considered both life-cycle costs (i.e., the cumulative costs over an approximately 50-year life) and discounted cash flows (i.e., a net present value in which all future costs are reduced by a common factor (generally the cost of capital)).

addition of some elements of the Expanded Operations Alternative. NNSA did not make any decision related to the CMRR–NF. It explained in the SWEIS ROD that it would not make any decisions regarding proposed actions analyzed in the SPEIS prior to completion of the SPEIS (73 FR 55833; Sept. 26, 2008). NNSA considered the analyses in the CMRR EIS and the 2008 LANL SWEIS, as well as those in the SPEIS in deciding to construct the CMRR–NF.

With respect to uranium manufacturing and R&D, the cost analyses indicated that building a UPF at Y–12, eliminating excess space, and shrinking the security area at the site will significantly reduce annual operational costs. The UPF at Y–12 will replace 50-year-old facilities, providing a smaller and modern production capability. It will enable NNSA to consolidate enriched uranium operations from six facilities at Y–12, and to reduce the size of the protected area at that site by as much as 90 percent. A new UPF will also allow NNSA to better support broader national security missions. These missions include providing fuel for Naval Reactors; processing and down-blending incoming HEU from the Global Threat Reduction Initiative; down-blending HEU for domestic and foreign research reactors in support of nonproliferation objectives; providing material for high-temperature fuels for space reactors (NASA); and supporting nuclear counter-terrorism, nuclear forensics, and the render safe program (program to disable improvised nuclear devices).

The life cycle cost analysis predicts an average annual savings over the 50-year facility life of approximately $200 million in FY 2007 dollars. The risk analysis found that moving the uranium mission to a site other than Y–12 would more than double the technical risks. The site-specific impacts for a UPF, including issues such as its location and size, will be analyzed in a new SWEIS for Y–12 that NNSA is currently preparing.

With respect to weapons assembly and disassembly and high explosives production, NNSA's decision to keep that mission at Pantex will result in the least cost and pose the lowest programmatic risk because the facilities necessary to conduct this work safely and economically already exist. Although no further NEPA analysis is required to continue these missions at Pantex, NNSA will continue to evaluate and update site-specific NEPA documentation as required by DOE regulations (10 CFR Part 1021).

With respect to SNM removal from LLNL, transferring Category I/II SNM to other sites and limiting LLNL operations to Category III/IV SNM will achieve a security savings of approximately $30 million per year at LLNL.

Potential Environmental Impacts

As described in greater detail in the following paragraphs, NNSA considered potential environmental impacts in making these decisions. It analyzed the potential impacts of each alternative on land use; visual resources; site infrastructure; air quality; noise; geology and soils; surface and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health impacts; environmental justice; and waste management. NNSA also evaluated the impacts of each alternative as to irreversible or irretrievable commitments of resources, the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity, and cumulative impacts. In addition, it evaluated impacts of potential accidents on workers and surrounding populations. The SPEIS includes a classified appendix that assesses the potential environmental impacts of a representative set of credible terrorist scenarios.

The environmental impacts of the alternatives are analyzed in Chapter 5 of the SPEIS. The impacts of the alternatives NNSA has decided to pursue are summarized as follows:

Land Use—Minor land disturbance during construction of new facilities (approximately 6.5 acres at LANL for a CMRR–NF and 35 acres at Y–12 for a UPF); less area would be disturbed after construction is complete. At Y–12, construction of a UPF will allow NNSA to reduce the protected area by as much as 90 percent, which will improve security and reduce costs. At all sites, land uses will remain compatible with surrounding areas and with land use plans. At LANL and Y–12, the land required for operations will be less than 1 percent of the sites' total areas.

Visual Resources—Changes consistent with currently developed areas, with no changes in the Visual Resource Management classification. All sites will remain industrialized.

Infrastructure—Existing infrastructure is adequate to support construction and operating requirements at all sites. During operations, any changes to power requirements would be less than 10 percent of the electrical capacity at each site.

Air Quality—During construction, temporary emissions will result, but National Ambient Air Quality Standards will not be exceeded as a result of this construction. Operations will not introduce any significant new emissions and will not exceed any standards.

Water Resources—Water use will not change significantly compared to existing use and will remain within the amounts of water available at the NNSA sites. Annual water use at each site will increase by less than 5 percent.

Biological Resources—No adverse effects on biota and endangered species. Consultations with the U.S. Fish and Wildlife Service have been completed for the CMRR–NF. Consultations with the Fish and Wildlife Service will be conducted for a UPF during preparation of the Y–12 SWEIS.

Socioeconomics—Short-term employment increases at LANL and Y–12 during construction activities. The selected alternatives will have the least disruptive socioeconomic impacts at all sites. At Y–12, the total workforce will be reduced by approximately 750 workers (approximately 11 percent of the site's workforce) after UPF becomes operational. Employment at all other sites will change by less than 1 percent compared to any changes expected under the No Action Alternative.

Environmental Justice—No disproportionately high and adverse effects on minority or low-income populations will occur at any affected site; therefore, no environmental justice impacts will occur.

Health and Safety—Radiation doses to workers and the public will remain well below regulatory limits at all facilities and at all sites. Doses to the public and workers will cause less than one latent cancer fatality annually at all sites. Conducting future operations in the CMRR–NF and UPF will reduce the dose to workers compared to the doses they receive in existing facilities.

Accidents—The risk of industrial accidents is expected to be low during construction of the new facilities. Radiological accident risks will be low (i.e., probabilities of less than one latent cancer fatality) at all sites. The CMRR–NF and a UPF are expected to reduce the probability and impacts of potential accidents.

Intentional Destructive Acts—Construction of a UPF and CMRR–NF will provide better protection to the activities conducted in these facilities, as it is generally easier and more cost-effective to protect new facilities because modern security features can be incorporated into their design. Although the results of the intentional destructive acts analyses cannot be disclosed, the following general conclusion can be drawn: The potential consequences of intentional destructive acts are highly dependent upon distance to the site boundary and size of the surrounding population—the closer and higher the surrounding population, the higher the potential consequences. Removal of SNM from LLNL will reduce the potential impacts of intentional destructive acts at that site.

Waste Management—Waste generation will remain within existing and planned management capabilities at all sites. Existing waste management facilities are sufficient to manage these wastes and maintain compliance with regulatory requirements.

Cumulative Impacts—The cumulative environmental impacts of the alternatives are analyzed in Chapter 6 of the SPEIS. The impacts of the alternatives when added to past, present, and reasonably foreseeable future actions will be within all regulatory standards and not result in significant new impacts.

Mitigation Measures

As described in the SPEIS, NNSA operates in compliance with environmental laws, regulations, and policies within a framework of contractual requirements; many of these requirements mandate actions to control and mitigate potential adverse environmental effects. Examples include site security and threat protection plans, emergency plans, Integrated Safety Management Systems, pollution prevention and waste minimization programs, cultural resource and protected species programs, and energy and water conservation programs (e.g., the Leadership in Energy and Environmental Design (LEED) Program). Any additional site-specific mitigation actions would be identified in site-specific NEPA documents.

Comments Received on the Final SPEIS Related to the Programmatic Alternatives

During the 30-day period following the EPA's notice of availability for the Final SPEIS (73 FR 63460; Oct. 24, 2008), NNSA received written comments from the following groups: Alliance for Nuclear Accountability, Project on Government Oversight, National Radical Women, Physicians for Social Responsibility, Oak Ridge Environmental Peace Alliance, Tri-Valley CAREs, the Union of Concerned Scientists, Nuclear Watch New Mexico, the Arms and Security Initiative of the New America Foundation, Concerned Citizens for Nuclear Safety, Embudo Valley Environmental Group, Ecology Ministry, Loretto Community, Aqua es Vida Action Team, Citizens for Alternatives to Radioactive Dumping, and Tewa Women United. Written comments were also received from approximately 30 individuals. The comments NNSA received related to the programmatic alternatives and NNSA's responses follow.

Some commenters substantively reiterated comments that they had provided earlier on the Draft SPEIS, including comments that suggested:

1. NNSA should make no decisions on Complex Transformation until a new Nuclear Posture Review has been completed by the newly elected administration and the report issued by the Congressional Commission on the Strategic Posture of the United States.

Response: NNSA believes the SPEIS analysis is consistent with and supports national security requirements and policies. It is unreasonable to assume that nuclear weapons would not be a part of this nation's security requirements over the time period analyzed in the SPEIS and beyond. The range of alternatives analyzed in the SPEIS covers the range of national security requirements that NNSA believes could reasonably evolve from any changes to national policy with regard to the size and number of nuclear weapons in the foreseeable future. Accordingly, there is no reason to delay the decisions announced in this ROD on complex transformation pending a new Nuclear Posture Review or the recommendations of the Bipartisan Panel reevaluating the United States' Nuclear Strategic Posture (see Comment Response 1.C, Volume III, Chapter III of the SPEIS). This ROD fully explains why NNSA is making these programmatic decisions, why it is appropriate to make these decisions at this time, and the flexibility NNSA has to adapt to any changes in national security requirements that may occur in the near term.

2. The United States does not need nuclear weapons or the infrastructure that produces and maintains them and should pursue disarmament consistent with the Nuclear Non-Proliferation Treaty.

Response: Decisions on whether the United States should possess nuclear weapons and the type and number of those weapons are made by the President and the Congress. As long as this nation has nuclear weapons, a Complex must exist to ensure their safety, security and reliability. NNSA believes the SPEIS analysis is consistent with and supports national security requirements and policies (see Comment Responses 1.0, 2.K.12, and 3.0, Volume III, Chapter III of the SPEIS).

3. There is no need to produce new pits (or no need for certain production rates).

Response: While pits may have extremely long lifetimes and there may ultimately be no need to produce many additional ones, prudence requires that the nation have the capability to produce pits should the need arise. NNSA is not proposing to manufacture any pits unless they are needed to meet national security requirements. A need to produce pits could arise due to the effects of aging on existing pits or changes to our national security policies that could require more pits than the few NNSA is currently manufacturing for stockpile surveillance (see Comment Responses 2.K.16, 2.K.22, and 5.C.1, Volume III, Chapter III of the SPEIS). Until completion of a new Nuclear Posture Review in 2009 or later, the net production at LANL will be limited to a maximum of 20 pits per year.

4. NNSA should undertake further efforts at compliance with Article VI of the Nuclear Non-proliferation Treaty (NPT) (or, Complex Transformation violates this treaty).

Response: The United States has made significant progress toward achieving the nuclear disarmament goals set forth in the NPT, and is in compliance with its Article VI obligations. The NPT does not mandate disarmament or specific stockpile reductions by nuclear states, and it does not address actions they take to maintain their stockpiles. NNSA disagrees with the assertion that Complex Transformation violates the NPT (see Comment Response 1.F, Volume III, Chapter III of the SPEIS).

5. NNSA should have included Stockpile Curatorship as a reasonable alternative fully considered in the SPEIS.

Response: The Curatorship Alternative as proposed by comments on the Draft SPEIS would have required NNSA to give up the capabilities to design and develop replacement nuclear components and weapons, forcing it to rely solely on the surveillance and non-nuclear testing program to maintain weapons and identify when they need repairs. NNSA believes it is unreasonable to give up these capabilities in light of the uncertainties concerning the aging of weapons and changing national security requirements. As explained in the SPEIS in Section 3.15, this would impair NNSA's ability to assess and, if necessary, address issues regarding the safety, security, and reliability of nuclear weapons (see Comment

Responses 2.H.2, 5.H.2, and 7.O, Volume III, Chapter III of the SPEIS).

6. The transformed complex should not support design or production of new design or modified nuclear weapons.

Response: NNSA is required to maintain nuclear weapons capabilities, including the capability to design, develop, produce, and certify new warheads. Maintenance of the capability to certify weapons' safety and reliability requires an inherent capability to design and develop new weapons. NNSA has not been directed to produce newly designed weapons (see Comment Responses 1.B, Volume III, Chapter III of the SPEIS).

7. NNSA should provide additional information on epidemiological studies of radiation health of workers and communities.

Response: Many of the workers at DOE's 20 major sites have been studied epidemiologically, some for decades. The National Institute for Occupational Safety and Health continues to update these studies as warranted by public health and scientific considerations. As more powerful epidemiological study designs become available, new studies of these workers may provide better information about health risks associated with radiation exposure (see Comment Responses 14.K.5 and 14.K.6, Volume III, Chapter III of the SPEIS). Many of the epidemiological studies and other related studies are available at *http://cedr.lbl.gov.*

8. NNSA should focus on clean-up of its sites rather than building new facilities to make weapons.

Response: DOE has a large remediation program and is aggressively addressing past contamination issues at each of its sites. This program is conducted in accordance with federal and state regulatory requirements and includes administrative and engineered controls to minimize releases, as well as surveillance monitoring of the environment and reporting of exposure assessments. These remediation activities are directed by federal and state regulators, have their own schedule and funding, and are separate from actions proposed in the SPEIS (see Comment Responses 7.J and 9.B, Volume III, Chapter III of the SPEIS). It is inaccurate to suggest that cleanup and transformation are mutually exclusive.

9. NNSA should consolidate special nuclear material from LLNL faster than its current schedule.

Response: NNSA has begun the removal of Category I/II SNM from LLNL, and plans to complete it by 2012. NNSA will continue to give this action the high priority requested by the commenter. Safety, security, and logistical issues associated with preparing SNM for shipment; shipping the materials; and storage at the receiving sites determine the schedule for completing this removal (see Comment Response 5.N.4, Volume III, Chapter III of the SPEIS).

10. The modernization of the Kansas City Plant should have been included in the SPEIS.

Response: The activities of the Kansas City Plant were not included in the SPEIS because NNSA concluded that decisions regarding the consolidation and modernization of the Kansas City Plant's activities (the production and procurement of electrical and mechanical non-nuclear components) would not affect or limit the programmatic alternatives analyzed in the SPEIS, or the decisions NNSA makes regarding these alternatives (see Comment Response 12.0, Volume III, Chapter III of the SPEIS).

11. The SPEIS is not written in plain language and lacks a clear format.

Response: NNSA prepared the SPEIS in accordance with the requirements of NEPA and the DOE and CEQ NEPA regulations. NNSA believes that the SPEIS is clearly written and organized in light of the highly technical subject matter and complex nature of the alternatives (see Comment Response 2.A, Volume III, Chapter III of the SPEIS).

12. NNSA inadequately addressed the environmental impacts of intentional destructive acts. NNSA must disclose the potential impacts of successfully executed credible terrorist attack scenarios at sites in the nuclear weapons complex and make this information available to the public.

Response: A classified appendix to the Complex Transformation SPEIS evaluates the potential environmental impacts of credible terrorist attacks that NNSA assumed (for purposes of analysis pursuant to NEPA) were successful at specific existing and proposed facilities. The appendix is classified both because the scenarios evaluated contain classified information and because there is a risk that these scenarios and their potential impacts could be exploited by terrorists or others contemplating harmful acts. Therefore, the SPEIS provides limited information about these acts and their potential consequences (see ''Potential Environmental Impacts'' above and Comment Responses 13.B and 13.D, Volume III, Chapter III of the SPEIS).

13. NNSA failed to consider long-acting consequences of nuclear weapons production, including the impacts that result from every year of operation. NNSA also failed to consider the deployment or potential use of the nation's nuclear arsenal.

Response: The SPEIS assesses the direct, indirect, and cumulative environmental impacts of the No Action Alternative and reasonable alternatives for the proposed action. Impacts are assessed for both construction and operations. For operations, the SPEIS focuses on the steady-state impacts of operations. Those annual operational impacts are assumed to occur year-after-year. Now that NNSA has made decisions regarding programmatic alternatives, it may need to prepare additional NEPA documents such as site- or facility-level analyses (e.g., the ongoing Y–12 SWEIS for a UPF now that NNSA has decided to locate it at Y–12) (see Comment Response 11.0, Volume III, Chapter III of the SPEIS). NNSA does not make decisions concerning the size, deployment or potential use of the nation's nuclear arsenal, and therefore the consequences of these decisions are not appropriate for analysis in the SPEIS.

14. NNSA inadequately addressed the cumulative impacts of the alternatives, including a detailed and careful analysis of the cumulative impacts of major nuclear-related facilities in New Mexico. Additionally, Comment Response 14.J.4 incorrectly states that Appendix C and D include information about an analysis of cumulative impacts with an extended region of influence of 100 miles.

Response: NNSA addressed potential cumulative impacts resulting from Complex Transformation and ongoing and reasonably anticipated actions of NNSA, other agencies and private developers. In response to public comments, NNSA added a detailed analysis of the cumulative impacts of major nuclear-related facilities in New Mexico. NNSA thinks that analysis is appropriately detailed. The assessment of cumulative impacts is in Chapter 6 of Volume II of the SPEIS (see Comment Responses 2.I and 14.O, Volume III, Chapter III of the SPEIS). With respect to the analysis of cumulative impacts with an extended region of influence of 100 miles, NNSA agrees that the Final SPEIS incorrectly referred the reader to Appendix C and D. NNSA intended to refer the reader to the LANL SWEIS, which shows that extending the region of influence out another 50 miles increases the affected population by 300 percent, while the population dose increases by only 13 percent. NNSA regrets this error.

15. NNSA inadequately addressed Environmental Justice, including a more detailed analysis of transportation impacts and waste disposal.

Response: Under Executive Order 12898, NNSA is responsible for identifying and addressing potential disproportionately high and adverse human health and environmental impacts on minority or low-income populations. Based on the SPEIS's analyses, NNSA concluded that there would not be any disproportionately high and adverse human health and environmental impacts on minority or low-income populations. In response to public comments received, NNSA also included information regarding a ''special pathways analysis'' for operations at LANL for the purpose of assessing how impacts would change compared to standard modeling results. The special pathway analysis is identified in Volume II, Chapter 5, Section 5.1.10 of the SPEIS, and the results of that analysis are presented in Comment Response 14.J, Volume III, Chapter III of the SPEIS.

16. NNSA inadequately addressed the impacts associated with design and production of Reliable Replacement Warheads.

Response: The continuing transformation of the complex is independent of decisions regarding Reliable Replacement Warheads that the Congress and President may make. At present, the Congress has declined to provide additional funding for development of these warheads (see Comment Responses 2.K.19 and 8.0, Volume III, Chapter III of the SPEIS).

17. NNSA has provided an inadequate basis to decide to locate a UPF at Oak Ridge and there is insufficient information in the SPEIS to select a site for a UPF.

Response: Programmatic alternatives regarding a UPF are analyzed in the SPEIS. The SPEIS is the appropriate document to analyze and support programmatic decisions related to major uranium missions and facilities. The Y–12 SWEIS, currently under preparation, will evaluate site-specific issues associated with continued production operations at Y–12, including issues related to construction and operation of a UPF such as its location and size. NNSA will make decisions regarding the specific location and size based on the more detailed analysis that will be in the Y–12 SWEIS (see Comment Response 5.C.2, Volume III, Chapter III of the SPEIS).

18. Commenters said that NNSA should accelerate consolidation of excess SNM and down-blend hundreds of metric tons of excess HEU, which is highly desirable to nuclear terrorists who could use it to quickly and easily create a crude nuclear device.

Response: Disposal of excess SNM is addressed by the Material Disposition Program. NNSA has an ongoing program to down-blend HEU for disposition, as described in the ROD (61 FR 40619; August 5, 1996) for the *Disposition of Surplus Highly Enriched Uranium Environmental Impact Statement* (DOE/EIS–0240, 1996). The potential environmental impacts of an intentional destructive act, such as terrorism or sabotage, are addressed in a classified appendix to the SPEIS (see Comment Responses 5.M, 5.N, and 13.0, Volume III, Chapter III of the SPEIS).

19. NNSA should not move forward with the construction of the CMRR–NF at LANL because of problems with NNSA construction projects, the federal government's limited economic resources, and adequate existing space at the LANL PF–4. Another commenter asked why the CMRR–NF is needed.

Response: As explained in detail in this ROD, the CMRR–NF is a needed modernization of LANL's plutonium capabilities. Continued use of the existing CMR facility is inefficient and poses ES&H and security concerns that cannot be addressed by modifying the CMR. The CMRR–NF will be safer, seismically robust, and easier to defend from potential terrorist attacks (see Comment Responses 3.0, 5.C.1, 5.C.6, and 9.0, Volume III, Chapter III of the SPEIS).

20. The potential environmental impacts of postulated accidents are not adequately addressed in the SPEIS, including the potential impacts to air, land, and water resulting from postulated accidents.

Response: Accidents are addressed in the Health and Safety Sections for each site and include analyses for a full spectrum of accidents with both high and low probabilities (see Comment Response 14.N, Volume III, Chapter III of the SPEIS). The accident analysis focused on human health impacts, which NNSA decided was a reasonable metric for comparing the programmatic alternatives.

21. A new, more thorough, more transparent cost analysis needs to be done before Complex Transformation plans are allowed to proceed.

Response: The purpose and need for complex transformation result from NNSA's need for a nuclear weapons complex that can be operated less expensively. NNSA prepared business case analyses to provide cost information on the alternatives considered in the SPEIS. NNSA considered these studies, the analyses in the SPEIS, and other information to make these decisions regarding transforming the complex. The business case analyses are available to the public on the project Web site: *http://www.ComplexTransformationSPEIS.com* (see Comment Response 9.0, Volume III, Chapter III of the SPEIS). NNSA believes these studies are adequate for making programmatic and project-specific decisions.

22. NNSA failed to consider an alternative that truly consolidates the nuclear weapons complex.

Response: The SPEIS analyzes alternatives that would make the complex more efficient and responsive than it would be under the No Action Alternative. Consolidation alternatives were formulated with that purpose and need in mind. The SPEIS assesses a range of reasonable alternatives for the future weapons complex that includes alternatives that, if they had been selected, would have eliminated one or more nuclear weapons complex sites (see Comment Responses 7.A.5, 7.A.6, and 7.A.7, Volume III, Chapter III of the SPEIS). As this ROD explains, relocating uranium, plutonium, and A/D/HE capabilities would be too expensive and risky.

23. Complex Transformation endangers human health.

Response: New facilities would be designed and operated to minimize risk to both workers and the general public during normal operations and in the event of an accident. Benefiting from decades of experience, NNSA employs modern processes; manufacturing technologies; and safety, environmental, security, and management procedures to protect against adverse health impacts (see Comment Response 14.K, Volume III, Chapter III of the SPEIS).

24. NNSA has not adequately addressed public comments about water usage, radioactive and toxic air emissions, impacts to humans, and impacts to agricultural lands or prime farmlands surrounding LANL resulting from past, current, and future operations of LANL.

Response: The environmental impacts of operating LANL are described in Chapter 4, Section 4.1 of Volume 1 of the SPEIS. The analysis examined surrounding land uses, water availability and usage, air quality and airborne emissions, surface and groundwater quality and discharges, human health, waste management, visual resources, noise, and other impacts of operating LANL. Chapter 5, Section 5.1 of Volume II of the SPEIS analyzes the potential environmental impacts of the alternatives evaluated in the SPEIS in the same media areas. See Comment Responses 14.E.11 through 14.E.14, Volume III, Chapter III of the SPEIS. For example, comment response

14.E.11 states that ''due to concern expressed for the quality of agriculture in the LANL region, NMED (New Mexico Environment Department) collects and analyzes foodstuff samples as part of its surveillance program to ensure quality standards are met.'' The 2008 LANL SWEIS (DOE/EIS–0380), and the ROD (73 FR 55833; Sept. 26, 2008) based on the analyses in it, presented NNSA's responses to similar comments in more detail. NNSA based its programmatic decisions affecting LANL on both the SPEIS and the SWEIS.

25. Albuquerque will begin drinking water from the Rio Grande on December 5, 2008. The Albuquerque Water Utility Authority (WUA), which oversees the project, has detected long-lived alpha-emitting radionuclides in the river. Although the levels of these radionuclides are below regulatory concern, the research shows that the current EPA standards for long-lived alpha-emitting radionuclides are not protective of the fetus and the young child. The WUA has asked LANL to reveal the extent of the radiation on the plateau and canyons that contribute to the river to no avail.

Response: Water quality and use at LANL are addressed in the SPEIS at Section 4.1.5 of Volume I. Impacts of complex transformation on water resources at LANL are addressed in Section 5.1.5 of Volume II. There is no indication that contamination from LANL is affecting Albuquerque's drinking water supply. According to a 2007 water quality report, gross alpha particle activity, radium-228, radium-226, and uranium were among regulated substances that were monitored but not detected (Albuquerque Bernilillo County Water Utility Authority, 2007 Drinking Water Quality Report). The 2007 water quality report may be accessed at *http://www.abcwua.org/content/view/280/484/* (see Comment Response 14.E, Volume III, Chapter III of the SPEIS).

26. NNSA failed to address comments concerning elevated levels of radionuclides in the Rio Embudo Watershed.

Response: The levels of radionuclides from the fallout produced by atmospheric testing of nuclear weapons (e.g., cesium-137, strontium-90, and plutonium-239) are expected to be elevated at Trampas Lake and in the Sangre de Cristo Mountains in which the Embudo Valley lies. The Trampas Lake data agree with expectations for global fallout at this location and are not a result of LANL activities (see Comment Response 14.K.8, Volume III, Chapter III of the SPEIS).

27. Seismic fasteners, ties, and other protections should be used in the construction of the Radiological Laboratory, Utility, and Office Building (RLUOB) within the CMRR project.

Response: NNSA is building the RLUOB to the highest applicable seismic standards. Even though the structure is a radiological laboratory and would not normally be constructed to the same standards as a high hazard nuclear facility, NNSA is nevertheless constructing it to those higher standards (see Comment Response 14.K.7, Chapter III, Volume III of the SPEIS).

28. NNSA did not respond to the comment that it must expand air monitoring in downwind communities and should no longer hide under the grandfather clause for air emissions from its old facilities at LANL.

Response: Operating permits issued pursuant to Title V of the Clean Air Act at NNSA sites include requirements for monitoring emissions from sources and keeping records concerning those sources and their emissions. Monitoring of the environment in and around NNSA sites generally includes air, water, soil, and foodstuffs, and monitoring results are reported in annual environmental surveillance reports. Chapter 10 of Volume II of the SPEIS describes permits issued by regulatory authorities for NNSA facilities and operations. At LANL, NNSA complies with the Clean Air Act and its emissions are regulated by the New Mexico Environment Department (see Comment Response 14.D.2, Chapter III, Volume III of the SPEIS).

29. Will LANL become the second Waste Isolation Pilot Plant (WIPP) site in New Mexico under the Complex Transformation proposal?

Response: This comment concerns the disposal path for newly generated transuranic waste that could result from decisions made on complex transformation. The alternatives analyzed in the SPEIS could generate transuranic waste after WIPP's scheduled closure in 2035. At this time, DOE is not considering any legislative changes to extend WIPP's operation or to develop a second repository for transuranic waste. Any transuranic waste that is generated without a disposal pathway would be safely stored until disposal capacity becomes available (see Comment Response 14.M.4, Chapter III, Volume III of the SPEIS).

30. LANL has failed to install a reliable network of monitoring wells at the laboratory.

Response: LANL's groundwater monitoring program was discussed in the 2008 LANL SWEIS. Groundwater monitoring at LANL is conducted in compliance with the ''Order on Consent for Los Alamos National Laboratory'' (Consent Order), and consistent with the Interim Facility-wide Groundwater Monitoring Plan that was approved by the New Mexico Environment Department in June 2006. Some of the groundwater data at LANL are being reassessed due to potential residual drilling fluid effects. Drilling fluid effects are quantitatively assessed in LANL's Well-Screen Analysis Report, Rev. 2 (LA–UR–07–2852; May 2007). Fifty-two percent of the well screens evaluated in this report produce samples that are not significantly impacted by drilling fluids. LANL has initiated a program to better evaluate the wells and to rehabilitate wells that may be producing suspect results. LANL is using the results of a pilot study to develop a proposed course of action for approval by the New Mexico Environment Department. The process is established by and in compliance with the Consent Order (see Comment Responses 14.E.2 and 14.E.1, Chapter III, Volume III of the SPEIS).

31. The existing CMR facility is not safe and the seismic hazards at LANL are uncertain. The commenters assert that many of their specific comments concerning seismic issues at LANL were not properly addressed. The commenters also state that due to seismic risks, all plutonium operations at LANL should immediately cease.

Response: Section 4.1.6 of Volume I of the SPEIS addresses seismic issues at LANL and Comment Responses 7.0, 14.F.1, 14.K.12, 14.N.8 and 19.E provide additional information on the seismic issues at LANL and the Justification for Continued Operation under which the laboratory's facilities operate. NNSA decided to construct the CMRR–NF largely because the CMR facility cannot be modified to safely operate for many more years (see the basis for decision for plutonium research and development and operations above).

In addition to the comments that were essentially identical to ones submitted on the Draft SPEIS and to which NNSA responded to in the Final SPEIS, NNSA received the following new comments.

1. Some commenters stated they were unable to identify responses in the Final SPEIS to some of their comments.

Response: NNSA reviewed the comments it received to ensure that responses had been included in the Final SPEIS. Based on this review, NNSA concluded that it had provided appropriate responses for all comments and that responses to these commenters' submissions were included in the Final SPEIS.

2. The April 9, 2008, comments of the New Mexico Conference of Catholic Bishops, in a letter signed by Most Rev. Michael J. Sheehan, Archbishop of Santa Fe, and Most Rev. Ricardo Ramirez, CSB, Bishop of Las Cruces, were omitted from the SPEIS's text and compact disc (CD).

Response: NNSA does not have any record of receiving the letter identified above prior to issuing the Final SPEIS. However, NNSA contacted the commenter and requested a copy of the letter. That letter raised questions and issues related to: Potential violations of treaties; an international arms race; whether transformation of LANL will result in a more responsive infrastructure; whether the proposed transformation of the complex is based on a Nuclear Posture Review conducted before or after September 11, 2001; the type of Congressional support that has been received; and the costs and funding source for decontamination and decommissioning. NNSA reviewed these comments and concluded that the Final SPEIS addresses each of them.

3. A commenter asserted that the Scarboro community, within 5 miles of the Y–12 facility, is disproportionately impacted, historically and currently, by the pollutants released on the Oak Ridge Reservation. This commenter also urged NNSA to refrain from issuing a ROD for the SPEIS until it commissions and receives an independent study of canned subassembly/secondary reliability, indicating whether a UPF is actually necessary; and until NNSA prepares a supplemental EIS considering the nonproliferation impacts of the proposed action.

Response: NNSA conducted its Environmental Justice analysis consistent with the requirements of the applicable Executive Order and related guidance. Section 14.J of Volume III, Chapter III, addresses the Environmental Justice comments received during the comment period. The Scarboro community is identified as the closest developed area to Y–12 (see Volume II, Chapter 4, Section 4.9.2 of the SPEIS). The analysis in the SPEIS did not result in any disproportionately high and adverse impacts on any minority or low-income populations at Y–12 (see Volume II, Chapter 5, Sections 5.9.10, 5.9.11, and 5.9.12 of the SPEIS). The reasons for NNSA's decision to proceed with a UPF are set forth above in the discussion of uranium manufacturing and research and development. Comment Response 1.F, Volume III, Chapter III, addresses the nonproliferation impacts of Complex Transformation.

4. The Comment Response Document does not include several public petitions, including one from members of Santa Clara Pueblo supporting the comments made by the Tribal Council of Santa Clara Pueblo. Another petition circulated by youth in the Espanola Valley by the Community Service Organization del Norte (CSO del Norte) is also omitted. Many of the individual comment letters from people living in the Rio Embudo Watershed are missing as well. There is no listing of the names of these commenters in Tables 1.3–3, 1.3–4, 1.3–5 or 1.3–6. The listing of the ''Campaign Comment Documents'' fails to give any indication of the leaders of the campaigns or any geographic reference, unless one flips through that section of the document.

Response: NNSA received approximately 100,000 comment documents on the Draft SPEIS from federal agencies; state, local, and tribal governments; public and private organizations; and individuals. In addition, during the 20 public hearings that NNSA held, more than 600 speakers made oral comments. NNSA made every effort to include all comment documents in the SPEIS and to identify and to address every comment. Because it would be impractical to list the names of all commenters who submitted campaign e-mails, letters, and postcards, those names are provided electronically in the CD version of the SPEIS and on the project Web site (*http://www.ComplexTransformationSPEIS.com*). In addition, the CD contains additional information on the public comment period and includes meeting transcripts and signatories for campaign documents and petitions. With regard to the petition from members of the Santa Clara Pueblo, NNSA believes this petition was submitted as a comment on the 2008 LANL SWEIS and not as a comment on the SPEIS. NNSA responded to the petition in the ROD it issued in September that was based on the SWEIS. If any comment documents or petitions were omitted from the SPEIS, NNSA regrets that.

5. In Comment Response 14.K.11, Chapter III, Volume III of the SPEIS, NNSA, in response to a comment related to under-reported historic radiation emissions, stated that it was ''unaware of any published CDC [Centers for Disease Control and Prevention] study with findings as described by the commenter.'' The commenter had provided a reference to a Los Alamos Historical Document Retrieval and Assessment Project report for documentation of their claim that ''DOE has grossly under-reported historic radiation emissions by nearly 60-fold.''

Response: NNSA reviewed the Los Alamos Historical Document Retrieval and Assessment Project report, and NNSA stands by Comment Response 14.K.11, Chapter III, Volume III of the SPEIS, which states that, ''Chapter 4, Section 4.6.1, of the LANL SWEIS (LANL 2008) shows the radiation doses received over the past 10 years from LANL operations by the surrounding population and hypothetical maximally exposed individual (MEI). The annual dose to the hypothetical MEI has consistently been smaller than the annual 10-millirem radiation dose limit established for airborne emissions by the U.S. Environmental Protection Agency. The final LANL Public Health Assessment, by the Agency for Toxic Substances and Disease Registry, reports that ''there is no evidence of contamination from LANL that might be expected to result in ill health to the community,'' and that ''overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities'' (Agency for Toxic Substances and Disease Registry, *Public Health Assessment, Final, Los Alamos National Laboratory,* 2006).

6. A commenter noted that Comment Response 14.J.4, Chapter III, Volume III, of the SPEIS incorrectly refers the reader to Appendix D for a description of the accident analysis.

Response: The reference to Appendix D is incorrect. The correct reference should have been to Appendix C. NNSA regrets the confusion caused by this error.

7. A commenter stated that NNSA made a commitment to refrain from making a siting decision on the UPF until the Y–12 SWEIS is completed.

Response: NNSA did not make such a commitment. This ROD explains NNSA's decision to construct a UPF at Y–12 based on the analysis contained in the SPEIS and other factors. This decision is not a decision as to where at Y–12 the new facility would be located or its size. Those decisions will be made based on the more detailed analysis in the Y–12 SWEIS. Additionally, the Y–12 SWEIS will include one or more alternatives that do not include a UPF. The public will have the opportunity to review and comment on the Draft SWEIS when it is prepared.

8. With respect to the new section (Section 6.4) that NNSA added to the Final SPEIS to provide more information on the potential cumulative impacts of nuclear activities in New Mexico, one commenter stated that Pantex should be added to that cumulative assessment because it is just

as close to WIPP and to LANL as WIPP and LANL are to each other. Another commenter stated that the impacts of the WSMR should be included in that assessment.

Response: NNSA added Section 6.4 in response to public comments on the Draft SPEIS that requested an analysis of cumulative impacts for the three DOE nuclear Facilities in New Mexico, as well as other major planned or proposed nuclear facilities in the state. In part, these comments stated that the regions of influence for LANL and SNL/NM overlap and that all three DOE sites are along the Rio Grande corridor in New Mexico. NNSA believes that Section 6.4 is adequate and responsive to public comments received regarding the cumulative impact assessment of nuclear activities in New Mexico. As Pantex is not located in New Mexico, and its region of influence does not extend into New Mexico, it was not included in Section 6.4. Also, because the WSMR does not conduct nuclear activities, it was not included in Section 6.4.

9. A commenter stated that the socioeconomic impacts described in the SPEIS are ''incomplete and vague,'' and asked for an explanation regarding the economic multiplier used in the analysis.

Response: NNSA reviewed this comment and believes that the socioeconomic analyses contained in the SPEIS are appropriate and comply with NEPA's requirements. The economic multipliers used in the SPEIS vary by location and are consistent with the multipliers estimated by the U.S. Bureau of Labor Statistics and multipliers used in other NEPA documents.

10. The SPEIS failed to address impacts on global warming.

Response: The SPEIS assesses the direct, indirect, and cumulative environmental impacts of the No Action Alternative and reasonable alternatives for the proposed action. The assessment of impacts includes, where appropriate, the direct and indirect contributions to the emission of greenhouse gases resulting from operation and transformation of the nuclear weapons complex. As to the programmatic alternatives analyzed in the SPEIS, the direct impacts would result from the construction and operation of major facilities involved in operations using SNM (e.g., a CPC, CNPC, CMRR–NF, UPF), and from the transportation of components, materials and waste. The emissions of carbon dioxide (CO_2) from construction and operation of proposed major facilities are estimated in Chapter 5 (see Tables 5.1.4–1 and 5.1.4–3 in Section 5.1.4 of Chapter 5, Volume II of the SPEIS). The potential emissions from transportation are a direct function of numbers of trips and their distances. The significant differences among the various programmatic alternatives as to transportation also appear in Chapter 5 (see Section 5.10 of Chapter 5, Volume II of the SPEIS).

The indirect impacts of the programmatic alternatives would result primarily from the use of electricity that is generated from the mix of generating capacities (gas, coal, nuclear, wind, geothermal, etc.) operated by the utilities NNSA purchases power from; these utilities may alter that mix in the future regardless of the decisions NNSA makes regarding transformation of the complex. The use of electricity under the programmatic alternatives is shown in Chapter 5 (see Tables 5.1.3–1 and 5.1.3–2 in Section 5.1.3 of Chapter 5, Volume II of the SPEIS).

Overall, the release of greenhouse gases from the nuclear weapons complex constitutes a miniscule contribution to the release of these gases in the United States and the world. Overall U.S. greenhouse gas emissions in 2007 totaled about 7,282 million metric tons of CO_2 equivalents, including about 6,022 million metric tons of CO_2. These emissions resulted primarily from fossil fuel combustion and industrial processes. About 40 percent of CO_2 emissions come from the generation of electrical power (Energy Information Administration, ''Emissions of Greenhouse Gases in the United States 2007,'' DOE/EIA–0573 [2007]).

As the impacts of greenhouse gas releases on climate change are inherently cumulative, NNSA, and the DOE as a whole, strive to reduce their contributions to this cumulatively significant impact in making decisions regarding their ongoing and proposed actions. DOE's efforts to reduce emissions of greenhouse gases extend from research on carbon sequestration and new energy efficient technologies to making its own operations more efficient in order to reduce energy consumption and thereby decrease its contributions to greenhouse gases.

NNSA considers the potential cumulative impact of climate change in making decisions regarding its activities, including decisions regarding continuing the transformation of the nuclear weapons complex. Many of these decisions are applicable to the broad array of NNSA's activities, and therefore are independent of decisions regarding complex transformation. For example, NNSA (and other elements of the Department) are entering into energy savings performance contracts at its sites, under which a contractor examines all aspects of a site's operation for ways to improve energy use and efficiency. Also, NNSA seeks to reduce its contribution to climate change through decisions regarding individual actions, such as pursuing LEED certification for its new construction and refurbishment of its aging infrastructure. Examples of these decisions include projects that replace aging boilers and chillers with equipment that is more energy efficient. Such projects are underway at Y–12, SNL/NM, and LANL (''DOE Announces Contracts to Achieve $140 Million in Energy Efficiency Improvements to DOE Facilities,'' August 4, 2008, available at: *http://www.energy.gov/6449.htm*).

NNSA considered its contributions to the cumulative impacts that may lead to climate change in making the programmatic decisions announced in this ROD. These decisions will allow NNSA to reduce its greenhouse gas emissions by consolidating operations, modernizing its heating, cooling and production equipment, and replacing old facilities with ones that are more energy efficient. Many of these actions would not be feasible if NNSA had selected the No Action Alternative, which would have required it to maintain the Complex's outdated infrastructure. Federal regulations and DOE Orders require the Department of Energy to follow energy-efficient and sustainable principles in its siting, design, construction, and operation of new facilities, and in major renovations of existing facilities. These principles, which will apply to construction and operation of a UPF at Y–12 and the CMRR–NF at LANL, as well as to other facilities, include features that conserve energy and reduce greenhouse gas emissions.

Issued at Washington, DC, this 15th day of December 2008.

Thomas P. D'Agostino,

Administrator, National Nuclear Administration.

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DEPARTMENT OF ENERGY

National Nuclear Security Administration

Record of Decision: Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, NM

AGENCY: Department of Energy, National Nuclear Security Administration.

ACTION: Record of decision.

SUMMARY: The National Nuclear Security Administration (NNSA) of the U.S. Department of Energy (DOE) is issuing this Record of Decision (ROD) for the continued operation of the Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico. This ROD is based on information and analyses contained in the *Final Site-Wide Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico,* DOE/EIS–0380 (Final SWEIS or 2008 SWEIS) issued on May 16, 2008; comments on the SWEIS; and other factors, including costs, security considerations and the missions of NNSA.

In the 2008 SWEIS, NNSA assessed three alternatives for the continued operation of LANL: (1) No Action, (2) Reduced Operations, and (3) Expanded Operations. The No Action Alternative analyzed in this SWEIS consists of NNSA and LANL continuing to implement earlier decisions based on previous National Environmental Policy Act (NEPA) reviews, including the 1999 LANL SWEIS (DOE/EIS–0238) and its ROD (64 FR 50797, Sept. 20, 1999). The 2008 SWEIS identified the Expanded Operations Alternative as NNSA's Preferred Alternative. The SWEIS includes a classified appendix that assesses the potential environmental

impacts of a representative set of credible terrorist scenarios.

Because NNSA is continuing to evaluate significant technical and national security issues that could affect the operation and missions of LANL, NNSA is making only a few decisions at this time regarding the continued operation of the laboratory. NNSA will not make any decisions regarding nuclear weapons production and other actions analyzed in the Complex Transformation Supplemental Programmatic Environmental Impact Statement (DOE/EIS–0236–S4) (Complex Transformation SPEIS or SPEIS) prior to the completion of the SPEIS. However, NNSA must make some decisions now regarding LANL to support the safe and successful execution of the laboratory's current missions. It is likely that NNSA will issue other RODs regarding the continued operation of LANL based on the 2008 SWEIS, the SPEIS and other NEPA analyses.

NNSA has decided to continue to implement the No Action Alternative with the addition of some elements of the Expanded Operations Alternative. These elements include increases in operation of some existing facilities and new facility projects needed for ongoing programs and protection of workers and the environment. For the most part, NNSA will continue the missions conducted at LANL at current levels at this time. NNSA will also continue to implement actions necessary to comply with the March 2005 Compliance Order on Consent (Consent Order), which requires investigation and remediation of environmental contamination at LANL. NNSA will not change pit production at LANL at this time; the 1999 ROD set pit production at LANL at 20 per year.

FOR FURTHER INFORMATION CONTACT: For further information on the 2008 LANL SWEIS or this ROD, or to receive a copy of this SWEIS or ROD, contact: Ms. Elizabeth Withers, Document Manager, U.S. Department of Energy, National Nuclear Security Administration Service Center, Post Office Box 5400, Albuquerque, NM 87185, (505) 845–4984. Questions about the SWEIS, ROD and other issues regarding the Los Alamos Site Office's NEPA compliance program may also be addressed to Mr. George J. Rael, Assistant Manager Environmental Operations, NEPA Compliance Officer, U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 3747 West Jemez Road, Los Alamos, NM 87544. Mr. Rael may be contacted by telephone at (505) 665–0308, or by e-mail at: *LASO.SWEIS@doeal.gov*. For information on the DOE NEPA process, contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC–20), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–4600, or leave a message at (800) 472–2756. Additional information regarding DOE NEPA activities and access to many DOE NEPA documents are available on the Internet through the DOE NEPA Web site at: *http://www.gc.energy.gov/nepa/*.

SUPPLEMENTARY INFORMATION:

Background

NNSA prepared this ROD pursuant to the regulations of the Council on Environmental Quality (CEQ) for implementing NEPA (40 CFR Parts 1500–1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). DOE last issued a SWEIS and ROD for the continued operation of LANL in 1999. DOE's NEPA regulations require that the Department evaluate site-wide NEPA analyses every five years to determine their continued applicability; NNSA initiated such an evaluation of the 1999 SWEIS in 2004. It subsequently decided to prepare a new SWEIS. NNSA issued a Draft SWEIS in July 2006 for public review and comment during a 75-day period. It considered the comments received on the Draft SWEIS in preparing the Final SWEIS, which it issued on May 16, 2008.

LANL is a multidisciplinary, multipurpose research institution in north-central New Mexico, about 60 miles (97 kilometers) north-northeast of Albuquerque, and about 25 miles (40 kilometers) northwest of Santa Fe. LANL occupies approximately 25,600 acres (10,360 hectares), or 40 square miles (104 square kilometers). About 2,000 structures, with a total of approximately 8.6 million square feet under roof, house LANL operations and activities, with about one half of the area used as laboratory or production space, and the remainder used for administrative, storage, services, and other purposes.

LANL is one of NNSA's three national security laboratories. Facilities and expertise at LANL are used to perform science and engineering research; the laboratory also manufactures some nuclear weapons components such as plutonium pits. In addition to weapons component manufacturing, LANL performs weapons testing, stockpile assurance, component replacement, surveillance, and maintenance. LANL's research and development activities include high explosives processing, chemical research, nuclear physics research, materials science research, systems analysis and engineering, human genome mapping, biotechnology applications, and remote sensing technologies. The main role of LANL in the fulfillment of NNSA and DOE missions is scientific and technological work that supports nuclear materials handling, processing, and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities. Work at LANL is also conducted for other Federal agencies such as the Departments of Defense and Homeland Security, as well as universities, institutions, and private entities.

Alternatives Considered

The alternatives NNSA evaluated in the SWEIS span a range of operations from minimum levels that would maintain essential mission capabilities (Reduced Operations Alternative) through the highest reasonably foreseeable levels that could be supported by current or new facilities (Expanded Operations Alternative). The No Action Alternative evaluated in the SWEIS consists of the continued implementation of decisions announced in the 1999 SWEIS ROD and decisions based on other completed NEPA reviews. The Reduced Operations Alternative assumes a reduction in the levels of certain operations and activities from the levels evaluated in the No Action Alternative. The Expanded Operations Alternative includes activities evaluated in the No Action Alternative, increases in overall operational levels, and new projects that fall into three categories: (1) Projects to maintain existing operations and capabilities (such as projects to replace aging structures with modern ones, and projects to consolidate operations and eliminate unneeded structures); (2) projects that support environmental remediation at LANL and compliance with the Consent Order, including demolition of excess buildings; and (3) projects that add new infrastructure and expand existing capabilities.

Compliance With the Consent Order

NNSA and LANL will continue to implement actions necessary to comply with the Consent Order, which requires the investigation and remediation of environmental contamination at LANL, regardless of the alternative it selects for the continued operation of the laboratory. The 2008 SWEIS analyzes the environmental impacts of actions required under the Consent Order,[1] and actions proposed by NNSA to facilitate its compliance with the Order (such as replacement of waste management structures, and establishment of waste examination and staging areas) under the Expanded Operations Alternative so that the impacts of these actions can be distinguished from the impacts of other proposed actions.

Preferred Alternative

The preferred alternative is the alternative that NNSA believes would best fulfill its statutory mission responsibilities while giving consideration to economic, budget, environmental, schedule, policy, technical and other information. In both the Draft and the Final SWEIS, NNSA identified the Expanded Operations Alternative as its preferred alternative.

Environmentally Preferable Alternative

NEPA's Section 101 (42 U.S.C. 4331) establishes a policy of federal agencies having a continuing responsibility to improve and coordinate their plans, functions, programs and resources so that, among other goals, the nation may fulfill its responsibilities as a trustee of the environment for succeeding generations. The Council on Environmental Quality (CEQ), in its ''Forty Most Asked Questions Concerning CEQ's NEPA Regulations'' (46 FR 18026, Feb. 23, 1981), defines the ''environmentally preferable alternative'' as the alternative ''that will promote the national environmental policy expressed in NEPA's Section 101.''

The analyses in the SWEIS of the environmental impacts associated with operating LANL identified only minor differences among the three alternatives across natural and cultural resource areas. Within each of the alternatives there are actions that could result in negative impacts, as well as those that would produce positive environmental effects. Considering the many environmental facets of the alternatives analyzed in the SWEIS, and looking out over the long term, NNSA believes that implementation of the Expanded Operations Alternative would allow it to best achieve its environmental trustee responsibilities under Section 101 of NEPA. Facilitating the cleanup of the site with new or expanded waste management facilities, and replacing older laboratory and production facilities with new buildings that incorporate modern safety, security and efficiency standards, would improve LANL's ability to protect human health and the environment while allowing LANL to continue to fulfill its national security missions. Increasing operational levels and performing various demolition activities would use additional resources and generate additional waste, but NNSA would also undertake actions to modernize and replace older facilities with more energy efficient and environmentally-protective facilities and to implement waste control and environmental practices to minimize impacts. Many of these types of actions are not feasible with the outdated infrastructure currently at LANL. Under this alternative, NNSA would be better positioned to minimize the use of electricity and water, streamline operations through consolidation, reduce the ''footprint'' of LANL as a whole, and allow some areas to return to a natural state.

NNSA's Responsibilities to Tribal Governments

NNSA recognizes that the operation of LANL over the last 65 years has affected the people of neighboring communities in northern New Mexico, including Tribal communities. These effects, which vary in nature across communities, include alterations of lifestyles, community, and individual practices. With respect to Tribal communities, NNSA adheres to federal statutes such as the Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act, the American Indian Religious Freedom Act, and the National Historic Preservation Act. NNSA follows Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*; Executive Order 13007, *Indian Sacred Sites*; Executive Order 13021, *Tribal Colleges and Universities*; and Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. NNSA also follows the 2004 Presidential Memorandum regarding Government-to-Government Relationships with Native American Tribal Governments, DOE's American Indian and Alaska Native Tribal Government Policy, DOE Order 1230.2 and DOE Notice 144.1, which establish principles and policies for the Department's relations with Tribes. NNSA has established cooperative agreements with Tribal nations that are located near NNSA sites to enhance their involvement in environmental restoration while protecting Tribal rights and resources.

Four Pueblo governments in the vicinity of LANL have signed individual Accord Agreements with NNSA (Santa Clara, San Ildefonso, Cochiti, and Jemez). The Accord Agreements, together with the recently established Environmental Management/NNSA tribal framework, provide a basis for conducting government-to-government relations and serve as a foundation for addressing issues of mutual concern between the Department and the Pueblos. In furtherance of these Accord Agreements, and specifically to address concerns and issues raised by the Santa Clara Pueblo, the implementation of the decisions in this ROD will be undertaken in conjunction with a Mitigation Action Plan (MAP), which will be updated as needed to address specific concerns and issues raised by the Santa Clara and other Tribal communities.

Environmental Impacts of Alternatives

NNSA analyzed the potential impacts of each alternative on land use; visual resources; site infrastructure; air quality; noise; geology and soils; surface and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health impacts; environmental justice; and waste management and pollution prevention. NNSA also evaluated the impacts of each alternative as to irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. In addition, it evaluated impacts of potential accidents at LANL on workers and surrounding populations. In a classified appendix, NNSA also evaluated the potential impacts of intentional destructive acts that might occur at LANL.

The 2008 SWEIS's impact analyses for normal operations (i.e., operations without accidents or intentional destructive acts) identified the most notable differences in potential environmental impacts among the alternatives in the following resource areas: *geology and soils; radiological air quality; human health; site infrastructure (electric power use, natural gas demand, potable water demand, and waste management demands); and transportation*. It also identified minor differences in potential environmental impacts among the alternatives under normal operations for: *land use; visual environment; surface water resources; groundwater resources; non-radiological air quality; noise levels; ecological resources; cultural resources; and socioeconomics*.

[1] The Consent Order was issued by the New Mexico Environment Department (NMED). As NMED makes the decisions regarding the requirements of the Order, these decisions are not subject to NEPA because they are not ''federal actions.''

These findings are described in the Summary and Chapters 4 and 5 of the SWEIS.

Environmental justice was an impact area of particular concern among those who commented on the SWEIS. NNSA recognizes that the operation of LANL over the last 65 years has affected the people of neighboring communities, including minority and low-income households. These effects, which vary in nature across communities, include alterations of lifestyles, community, and individual practices. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires every Federal agency to analyze whether its proposed actions and alternatives would have disproportionately high and adverse impacts on minority or low-income populations. Based on the impacts analysis, NNSA expects no disproportionately high and adverse impacts on minority or low-income populations from the continued operation of LANL under any of the alternatives. From the analysis conducted of the alternatives, the radiological dose from emissions from normal operations are slightly lower for members of Hispanic, Native American, total minority, and low-income populations than for members of the population that are not in these groups, mainly because of the locations of these populations relative to the operations at LANL that produce these emissions. The maximum annual dose for the average member of any of the minority or low-income populations is estimated to be 0.092 millirem compared to a dose of 0.10 millirem for a member of the general population, and a dose of 0.11 millirem for a member of the population that does not belong to a minority or low-income group.

NNSA also analyzed human health impacts from exposure through special pathways, including subsistence consumption of native vegetation (piñon nuts and Indian Tea [Cota]), locally grown produce and farm products, groundwater, surface waters, fish (game and nongame), game animals, other foodstuffs and incidental consumption of soils and sediments (on produce, in surface water, and from ingestion of inhaled dust). These special pathways can be important to the environmental justice analyses because some of them may be more important or prevalent as to the traditional and cultural practices of members of minority populations in the area. The analyses conducted for the 2008 SWEIS, however, show that the health impacts associated with these special pathways do not result in disproportionately high and adverse impacts to minority or low-income populations.

The SWEIS analyzed potential accidents at LANL. Bounding accidents for both nuclear materials handling and waste management operations and for chemical handling and waste management operations, were identified as those with the highest potential consequences to the offsite population under median site meteorological conditions. Chemicals of concern were selected from a database based on quantities, chemical properties, and human health effects. In making the decisions announced in this ROD, NNSA considered the potential accidents analyzed in the SWEIS for each of the three alternative levels of LANL operations. For the most part, there are few differences among the alternatives for the maximum potential wildfire, seismic, or facility operational accident at LANL because actions under each alternative do not, for the most part, affect the location, frequency, or material at risk of the analyzed accident scenarios. Potential accidents that could occur under the No Action Alternative could also occur under both the Reduced Operations and the Expanded Operations Alternatives. In general, TA–54 waste management operations dominate the potential radiological accident risks and consequences at LANL under all three alternatives.

Under both the No Action and the Reduced Operations Alternatives, the accident with the highest estimated consequences to offsite populations involving radioactive material or wastes is a lightning-initiated fire at the Radioassay and Nondestructive Testing Facility in TA–54. Such an accident could result in up to 6 additional latent cancer fatalities (LCFs) in the offsite population. A fire at the Plutonium Facility's material staging area located within TA–55 could result in up to 5 additional LCFs in the offsite population. The potential accident expected to result in the highest estimated consequences to the hypothetical maximally exposed individual (MEI) and a non-involved nearby worker would be a fire in a waste storage dome at TA–54. If that accident were to occur, a single LCF to a noninvolved worker located 110 yards (100 meters) away from the site of the accident would be likely, and there could also be a 1 in 2 likelihood (0.50) of a LCF to the MEI, who is assumed to be located at the nearest site boundary for the duration of the accident. The lightning-initiated fire accident at the Radioassay and Nondestructive Testing Facility could also result in a single LCF to a noninvolved worker located 110 yards (100 meters) away from the site of the accident, and could also result in about the same 1 in 2 likelihood (0.49) of a LCF to the MEI assumed to be located at the nearest boundary for the duration of the accident.

Under the Expanded Operations Alternative, there is a potential for a radiological accident unique to this alternative. The radiological accident most likely to result in the highest estimated consequences to the offsite population is a building fire involving radioactive sealed sources stored at the Chemistry and Metallurgy Research Building. Such an accident could result in up to 7 additional LCFs in the offsite population. The potential accident expected to result in the highest estimated consequences to the hypothetical MEI and a non-involved nearby worker would be the same as for the No Action Alternative, namely, a fire in a waste storage dome at TA–54.

DOE evaluates the exposure risks associated with chemicals of concern and the requirements for crisis response personnel to use personal protection to avoid potentially dangerous exposures through its system of Emergency Response Planning Guidelines (ERPG). Chemicals of concern in the analyzed accidents at LANL under both the No Action and Reduced Operations Alternatives include selenium hexafluoride and sulfur dioxide, both from waste cylinder storage at TA–54, and chlorine and helium gases located at TA–55. Annual risks of worker and public exposure in the event of chemical releases are greatest from chlorine and helium gases. The annual risk is estimated to be about one chance in 15 years for workers within 1,181 yards (1,080 meters) of the facility receiving exposures in excess of the ERPG limits for chlorine gas, with the nearest public access located at 1,111 yards (1,016 meters). The annual risk is estimated to be about one chance in 15 years for workers within 203 yards (186 meters) of the facility receiving exposures in excess of ERPG limits for helium gas, with the nearest public access at 1,146 yards (1,048 meters).

Cleanup activities of Material Disposal Areas (MDAs) are analyzed under the Expanded Operations Alternative. These activities pose a risk of accidental releases of toxic chemicals, as there is a degree of uncertainty about how much and what chemicals were disposed of in the MDAs. MDA B is the closest disposal area to the boundary of LANL that will require remediation; remediation by waste removal was assumed for the analysis of a bounding accidental chemical release. Sulfur dioxide gas and beryllium powder were chosen as the bounding chemicals of concern for this area based on their ERPG values. If present at MDA B in the quantities assumed, both of these chemicals would likely dissipate to safe levels very close to the point of their release. However, there is a potential risk to the public due to the short distance between MDA B and the nearest point where a member of the public might be.

Comments on the Final Site-Wide Environmental Impact Statement

NNSA distributed more than 1,030 copies of the Final SWEIS to Congressional members and committees, the State of New Mexico, Tribal governments and organizations, local governments, other Federal agencies, non-governmental organizations, and individuals. NNSA received comments on the Final SWEIS from the Santa Clara Indian Pueblo; the Members and Residents of Santa Clara Pueblo; Concerned Citizens for Nuclear Safety, together with Robert H. Gilkeson and the Embudo Valley Environmental Monitoring Group; Citizen Action New Mexico; Nuclear Watch New Mexico; Citizens for Alternatives to Radioactive Dumping, and from nearby farmers.

Comments on the Final SWEIS included issues already raised during the comment period for the Draft SWEIS. Volume 3 of the Final SWEIS contains all comments received on the Draft SWEIS and NNSA's responses to them; this chapter also describes how these comments resulted in changes to the SWEIS.

The Santa Clara Indian Pueblo identified three main areas of concern: (1) Government-to-government consultation should have taken place before the issuance of the Final SWEIS; (2) environmental justice issues (including cumulative impacts) were not analyzed properly in the Final SWEIS; and (3) going forward with an increase in plutonium pit production at this time would be premature and violate NEPA. In a letter signed by 226 individuals, the Members and Residents of the Santa Clara Pueblo stated their support for comments on the SWEIS submitted by the tribal leaders. They also stated their opposition to increased plutonium pit production and specifically asked ''that (1) proper analysis of environmental justice and accumulative impacts be completed and circulated to the public for comments; (2) that NNSA/DOE honor government-to-government consultation and the process as a trust to Indian Tribes (Santa Clara Pueblo); and (3) that no decision about increasing plutonium pit production be made until review of this issue mandated in a new law (the National Defense Authorization Act for Fiscal Year 2008) is completed.''

To the extent that Santa Clara Pueblo perceived NNSA's action in delaying government-to-government consultation until after the issuance of the Final SWEIS and before the issuance of this ROD to be inconsistent with appropriate protocol for such consultations, this was not intended. NNSA believes that it followed the requirements of DOE Order 1230.2, *U.S. Department of Energy American Indian and Alaska Native Tribal Government Policy*, in consulting through the formal government-to-government process with Santa Clara Pueblo prior to making the decisions announced in this ROD. However, given the two-year time period between the issuance of the Draft SWEIS in 2006 and the issuance of the Final SWEIS in 2008, NNSA acknowledges that it could have been more prompt in engaging in government-to-government consultation with the Santa Clara Pueblo. NNSA will work to improve its consultation process.

With regard to the impact analysis of environmental justice issues (including cumulative impacts) in the Final SWEIS, NNSA believes that it appropriately analyzed the potential for disproportionately high and adverse impacts to minority and low-income populations located within a 50-mile radius of LANL under all alternatives, and that it also appropriately analyzed cumulative impacts to the extent that future actions are known or foreseeable. However, NNSA recognizes that many of the concerns the Santa Clara expressed are rooted in protected cultural and religious practices of its people. With this in mind, NNSA will undertake implementation of the decisions announced in this ROD in conjunction with a MAP. The MAP will be updated as the need arises to identify actions that would address specific concerns and issues raised by the Santa Clara as well as those of other tribal entities in the area of LANL.

NNSA agrees that decisions at this time on proposed actions analyzed in the Complex Transformation SPEIS, including decisions regarding the number of plutonium pits LANL will produce, would be premature. NNSA will not make any decisions on pit production until after it completes the SPEIS.

Concerned Citizens for Nuclear Safety, together with Robert H. Gilkeson and the Embudo Valley Environmental Monitoring Group, raised several concerns with the Final SWEIS: issuance of the Final SWEIS is premature because there could be a future Congressional change in the purpose and need to operate LANL; there is an uncertain seismic hazard at LANL; the Final SWEIS does not comply with NEPA because it omitted an analysis of prime farmland; LANL does not have a reliable network of monitoring wells; radionuclides have been found in the drinking water wells of Los Alamos County, San Ildefonso Pueblo, and Santa Fe; and storm flow and sediment transport are primary mechanisms for potential contaminant transport beyond LANL's boundaries.

NNSA does not agree that issuance of the Final SWEIS and a ROD is premature. Should Congress or the President direct changes regarding the purpose and need to operate LANL, NNSA may need to conduct additional NEPA reviews or amend this ROD. Federal agencies always face the possibility that in the future the Congress or the President may direct changes in their missions and responsibilities. At this time, NNSA is making only a limited set of decisions regarding actions that need to be implemented now. These decisions do not limit or prejudice the decisions NNSA may make regarding the programmatic alternatives it is evaluating in the Complex Transformation SPEIS.

New information about seismic risks at LANL (set forth in the report *Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory, 2007, LA–UR–07–3965*) may change how hazardous materials are stored, operations are conducted, and facilities are constructed or renovated. NNSA is conducting a systematic review of LANL structures and operations in light of this information. This review, expected to be completed in about one year, will identify any necessary changes to address the new seismic information. NNSA will then implement the necessary changes to LANL facilities and operations based on the review's recommendations.

NNSA contacted the U.S. Department of Agriculture regarding prime farmland designations in northern New Mexico and included that information in Chapter 4 of the Final SWEIS. No farmland designated by that agency as ''prime farmland'' is located within Los Alamos or Santa Fe Counties, and only a limited amount of prime farmland is located within a 50-mile radius of LANL in Sandoval and Rio Arriba Counties. The Farmland Protection Policy Act requires that projects receiving Federal funds that would result in the permanent conversion of prime farmland to non-farmland (or remove its prime rating) must develop and consider alternatives that would not result in the conversion. None of the proposed actions at LANL under any of the alternatives would result in changes to any designated prime farmland or cause it to be re-designated as non-prime farmland.

Information about the network of monitoring wells, including existing and planned wells, is provided in Chapter 4 of the Final SWEIS. NNSA acknowledges that past well installation practices have not produced the desired network, and will continue to install and refurbish wells until adequate information is obtained regarding groundwater conditions and contaminant transport within the aquifers in the LANL area. Contaminants identified in various drinking water wells are being monitored, and drinking water production from these wells may be adjusted or discontinued in compliance with health protection standards. Additional study of aquifer conditions and contaminant transport is needed before long-term corrective actions can be identified and implemented. Contaminant transport via surface water flow and sediment transport is recognized as the primary mechanisms for off-site transport, especially after storms. As the watershed recovers from the effects of the Cerro Grande Fire in 2000, the volumes of storm water runoff are expected to decrease.

Citizen Action New Mexico stated its opposition to the Expanded Operations Alternative, especially expanded nuclear weapons research and production, and asserted that the Final SWEIS did not consider the increased impact of plutonium production on children in compliance with Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

NNSA believes it has complied with this Executive Order in the Final SWEIS. NNSA now uses a more conservative dose-to-risk conversion factor in assessing risks of radiation exposures as a result of this Order. Use of the new dose-to-risk conversion factor is one of the changes noted in NNSA's NEPA process since the issuance of the 1999 SWEIS (Chapter 6 and Appendix C of the SWEIS). As noted previously, NNSA is not making any decisions at this time that would result in expansion of nuclear weapons production.

In comments on the Final SWEIS, Nuclear Watch New Mexico (NWNM) stated that: Expanded plutonium pit production is not necessary; potential impacts of the proposed Radiological Science Institute are not adequately analyzed in the Final SWEIS and that a project-specific EIS is necessary for the institute; waste volumes identified in the Final SWEIS do not reconcile with those in NNSA's Draft Complex Transformation Supplemental Programmatic EIS; there is confusion about whether the proposed Advanced Fuel Cycle Facility, which is the subject of another DOE programmatic EIS, *The Global Nuclear Energy Partnership Programmatic EIS* (the GNEP PEIS), would be used for research and development or for full-scale reprocessing (and the number of associated facilities that could be located at LANL); and the Los Alamos Science Complex should be funded through the traditional Congressional budgetary authorization and appropriation process.

NNSA believes that it appropriately analyzed the potential impacts of the Radiological Science Institute in the Final SWEIS to the extent possible at this stage of the project planning process, and acknowledged in the Final SWEIS that additional NEPA analyses may be necessary if NNSA decides to continue with this proposal. NNSA will reconcile and update waste volumes in the Final Complex Transformation SPEIS. DOE has decided to eliminate the Advanced Fuel Cycle Facility from consideration in the GNEP PEIS (for more information, please visit: *http://www.gnep.energy.gov*). NNSA is considering the use of alternative financing for the Los Alamos Science Complex; this is an appropriate financing approach in certain situations although it has been rarely used at LANL.

NWNM also asked for additional clarification of some of NNSA's responses to its comments on the Draft SWEIS and provided additional information regarding some of their previous comments. Specifically, NWNM asked if all current tests using plutonium at the Dual Axis Radiographic Hydrodynamic Test Facility (DARHT) are conducted inside vessels.

At present, NNSA is not conducting any tests at DARHT that use plutonium, and future tests using plutonium at this facility would be conducted inside vessels.

NWNM asked if the Rendija Canyon Fault is the closest fault to the proposed location of the Radiological Science Institute.

As discussed in the Final SWEIS, it is the closest known fault to that location.

NWNM also requested an unclassified appendix that discusses intentional destructive acts at LANL; asserted there should be a citation to information compiled by the U.S. Department of Commerce's Bureau of Economic Analysis; and asked that the Area G Performance Assessment and Composite Analysis and the geotechnical report recently prepared by LANL be posted on the Internet.

NNSA considered the preparation of an unclassified discussion of the potential environmental impacts of intentional destructive acts at LANL, but concluded that such a discussion posed unacceptable security risks. Information used to prepare the economic impacts analysis was not contained within a discrete study, so a citation is not appropriate in this instance. Unclassified documents prepared by LANL are generally placed on its Internet site when completed and approved for distribution. NWNM may access the LANL Internet site for these specific references.

NWNM correctly pointed out that the Environmental Protection Agency (EPA) had designated the Española Basin as a Sole Source Aquifer in early 2008.

Once EPA designates a sole source aquifer under its Sole Source Aquifer Protection Program, the agency can review proposed projects that are to receive Federal funds and that have a potential to contaminate the aquifer. Under this review, EPA can request changes to a Federally-funded project if it poses a threat to public health by contaminating an aquifer to the point where a safe drinking water standard could be violated. Projects conducted entirely by Federal agencies, or their contractors, at sole source aquifer locations are not subject to EPA's review process. NNSA is not proposing any new projects that would cause the Española Basin aquifer to exceed a safe drinking water standard.

Citizens for Alternatives to Radioactive Dumping also commented on the Final SWEIS. It asserted that expanded pit production is not necessary; that contamination has been found in produce samples; that there is prime farm land in the Embudo Valley; that there are radionuclides in the Rio Grande, which is a threat to its use as drinking water by the city of Santa Fe; and that radioactive cesium has been found in soils at the Trampas Lakes, which drain into the Rio Grande.

As NNSA noted in its response to other comments on the Draft SWEIS, a single ''false positive'' result was returned from a laboratory analyzing fruit specimens grown near LANL. No uptake of radioactive contamination attributed to LANL operations has been found in produce samples obtained from the Embudo Valley. Drinking water supplies for Santa Fe must meet Safe Drinking Water Act and other state and municipal requirements. Elevated radionuclide concentrations in the soils of alpine lake basins within the Rocky Mountain range have been attributed to global fallout concentrated through snowfall and specific geomorphic conditions.

Decisions

With limited additions, NNSA has decided to continue operation of Los Alamos National Laboratory pursuant to the No Action Alternative analyzed in the 2008 SWEIS. The parameters of this alternative are set by the 1999 ROD and other decisions that NNSA has made previously regarding the continued operation of LANL. The additions to the No Action Alternative NNSA has decided to implement at this time consist of elements of the Expanded Operations Alternative. These elements are of two types: (1) Changes in the level of operations for on-going activities within existing facilities, and (2) new facility projects. The changes in operational levels NNSA has decided to implement at this time are:

• Supporting the Global Threat Reduction Initiative and Off-Site Sources Recovery Project by broadening the types and quantities of radioactive sealed sources (Co-60, Ir-192, Cf-252, Ra-226) that LANL can manage and store prior to their disposal;

• Expanding the capabilities and operational level of the Nicholas C. Metropolis Center for Modeling and Simulation to support the Roadrunner Super Computer platform;

• Performing research to improve beryllium detection and to develop mitigation methods for beryllium dispersion to support industrial health and safety initiatives for beryllium workers; and

• Retrieval and disposition of legacy transuranic waste (approximately 3,100 cubic yards of contact-handled and 130 cubic yards of remote-handled) from belowground storage.

New facility projects involve the design, construction, or renovation of facilities and were analyzed as part of the Expanded Operations Alternative. The facility projects that NNSA has decided to pursue at this time are:

• Planning, design, construction and operation of the Waste Management Facilities Transition projects to facilitate actions required by the Consent Order;

• Repair and replacement of mission critical cooling system components for buildings in TA–55 to enable the continued operation of these buildings and to comply with current environmental standards; and

• Final design of a new Radioactive Liquid Waste Treatment Facility, and design and construction of the Zero Liquid Discharge Facility component of this new treatment facility to enable LANL to continue to treat radioactive liquid wastes.

These projects and actions are needed on an immediate basis to maintain existing capabilities, support existing programs, and provide a safe and environmentally protective work environment at LANL. The need for these increases in operations and new facility projects exists regardless of any decisions NNSA may make regarding the programmatic and project-specific alternatives analyzed in the Complex Transformation SPEIS.

In addition, NNSA will continue to implement actions required by the Consent Order, as noted above, these decisions are not subject to NEPA.

Basis for Decision

NNSA's decisions are based on its mission responsibilities and its need to sustain LANL's ability to operate in a manner that allows it to fulfill its existing responsibilities in an environmentally sound, timely and fiscally prudent manner.

National security policies require NNSA to maintain the nation's nuclear weapons stockpile as well as its core competencies in nuclear weapons. Since completion in 1996 of the *Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (SSM PEIS) and associated ROD, NNSA and its predecessor, DOE's Office of Defense Programs, has implemented these policies through the Stockpile Stewardship Program (SSP). The SSP emphasizes development and application of improved scientific and technical capabilities to assess the safety, security, and reliability of existing nuclear warheads without the use of nuclear testing. LANL's operations support a wide range of scientific and technological capabilities for NNSA's national security missions, including the SSP. Most of NNSA's missions require research and development capabilities that currently reside at the LANL site. The nuclear facilities in LANL's TA–55 must maintain the nation's nuclear stockpile. Programmatic risks would be unacceptable if LANL did not continue to operate, or if it failed to implement the new decisions set forth above.

NNSA believes that, at this time, existing national security requirements can be met by continuing to conduct operations at current levels with only a limited number of increases in levels of operations and new facility projects. These increases in operations and new projects are needed because of changes in the SSP program and NNSA's nuclear non-proliferation program. They are also needed to meet new responsibilities that have arisen as a result of changes in our national security requirements since 1999. One of the new facility projects is needed to facilitate NNSA's compliance with the Consent Order. The specific rationales for NNSA's decisions to implement seven elements of the Expanded Operations Alternative are:

1. Supporting the Global Threat Reduction Initiative and Off-Site Sources Recovery Project by broadening the types and quantities of radioactive sealed sources (Co-60, Ir-192, Cf-252, Ra-226) that LANL can manage and store prior to their disposal—This decision will allow NNSA to retrieve and store more of these sources, which, if not adequately secured, could be used in a radiation dispersion device (a "dirty bomb").

2. Expanding the capabilities and operational level of the Nicholas C. Metropolis Center for Modeling and Simulation to support the Roadrunner Super Computer platform—This decision will allow NNSA to perform calculations that improve its ability to certify that the nuclear weapons stockpile is reliable without conducting underground nuclear tests. It will also allow LANL to conduct research on global energy challenges and other scientific issues.

3. Performing research to improve detection and mitigation methods for beryllium—This research will support the continued development of methods to capture and sequester beryllium and to expedite sample analysis needed to implement exposure controls to ensure worker safety.

4. Retrieval and disposition of legacy transuranic waste (approximately 3,100 cubic yards of contact-handled and 130 cubic yards of remote-handled) from belowground storage—Retrieving and dispositioning this waste will allow LANL to complete closure and remediation of TA–54 Material Disposal Area G under the Consent Order. This action will reduce risk by removing approximately 105,000 plutonium-239 equivalent curies from LANL.

5. Planning, design, construction and operation of the Waste Management Facilities Transition projects—These projects will replace LANL's existing facilities for solid waste management. The existing facilities at TA–54 for transuranic waste, low-level waste, mixed low-level waste and hazardous/

chemical waste are scheduled for closure and remediation under the Consent Order.

6. Repair and replacement of mission critical cooling system components for buildings in TA–55—This decision will allow these facilities to continue to operate and for NNSA to install a new cooling system that meets current standards regarding the phase-out of Class 1 ozone-depleting substances.

7. Final design of a new Radioactive Liquid Waste Treatment Facility, and design and construction of the Zero Liquid Discharge Facility component of this new treatment facility—This decision will allow LANL to continue to treat radioactive liquid wastes by replacing a facility that does not meet current standards and that cannot be acceptably renovated. Regardless of any decisions NNSA may make about complex transformation and LANL's role in it, the laboratory will need to treat liquid radioactive wastes for the foreseeable future.

Mitigation Measures

As described in the SWEIS, LANL operates under environmental laws, regulations, and policies within a framework of contractual requirements; many of these requirements mandate actions intended to control and mitigate potential adverse environmental effects. Examples include the Environment, Safety, and Health Manual, emergency plans, Integrated Safety Management System, pollution prevention and waste minimization programs, protected species programs, and energy and conservation programs. A Mitigation Action Plan for this ROD will be issued that includes: Specific habitat conservation measures recommended by the U.S. Fish and Wildlife Service for mitigating effects to potential habitat areas; site- and action-specific commitments related to the Consent Order once the State of New Mexico decides on specific environmental remediation for LANL MDAs; and traffic flow improvements that could involve such measures as installing turn lanes, installing and coordinating traffic lights, and installing new signage. A summary of all prior mitigation commitments for LANL that are either underway or that have yet to be initiated will be included in the MAP. These prior commitments include such actions as continued forest management efforts, continued trail management measures, and implementation of a variety of sampling and monitoring measures, as well as additional measures to reduce potable water use and conserve resources.

In addition, with respect to the concerns raised by the Santa Clara Pueblo, NNSA will continue its efforts to support the Pueblo and other tribal entities in matters of human health, and will participate in various intergovernmental cooperative efforts to protect indigenous practices and locations of concern. NNSA will conduct government-to-government consultation with the Pueblo and other tribal entities to incorporate these matters into the MAP.

Issued at Washington, DC, this 19th day of September 2008.

Thomas P. D'Agostino,

Administrator, National Nuclear Security Administration.

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DEPARTMENT OF ENERGY

National Nuclear Security Administration

Record of Decision: Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project, Los Alamos National Laboratory, Los Alamos, NM

AGENCY: National Nuclear Security Administration, Department of Energy.

ACTION: Record of decision.

SUMMARY: The U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) is issuing this record of decision on the proposed replacement of the existing Chemistry and Metallurgy (CMR) Building at Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico. This record of decision is based upon the information contained in the ''Environmental Impact Statement for the Proposed Chemistry and Metallurgy Research Building Replacement Project, Los Alamos National Laboratory, Los Alamos, New Mexico'', DOE/EIS–0350 (CMRR EIS), and other factors, including the programmatic and technical risk, construction requirements, and cost. NNSA has decided to implement the preferred alternative, alternative 1, which is the construction of a new CMR Replacement (CMRR) facility at LANL's Technical Area 55 (TA–55). The new CMRR facility would include a single, above-ground, consolidated special nuclear material-capable, Hazard Category 2 laboratory building (construction option 3) with a separate administrative office and support functions building. The existing CMR building at LANL would be decontaminated, decommissioned, and demolished in its entirety (disposition option 3). The preferred alternative includes the construction of the new CMRR facility, and the movement of operations from the existing CMR

building into the new CMRR facility, with operations expected to continue in the new facility over the next 50 years.

FOR FURTHER INFORMATION CONTACT: For further information on the CMRR EIS or record of decision, or to receive a copy of this EIS or record of decision, contact: Elizabeth Withers, Document Manager, U.S. Department of Energy, Los Alamos Site Office, 528 35th Street, Los Alamos, NM 87544, (505) 667–8690. For information on the DOE National Environmental Policy Act (NEPA) process, contact: Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (EH–42), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–4600, or leave a message at (800) 472–2756.

SUPPLEMENTARY INFORMATION:

Background

The NNSA prepared this record of decision pursuant to the regulations of the Council on Environmental Quality for implementing NEPA (40 CFR parts 1500–1508) and DOE's NEPA implementing procedures (10 CFR part 1021). This record of decision is based, in part, on information provided in the CMRR EIS.

LANL is located in north-central New Mexico, about 60 miles (97 kilometers) north-northeast of Albuquerque, and about 25 miles (40 kilometers) northwest of Santa Fe. LANL occupies an area of approximately 25,600 acres (10,360 hectares), or approximately 40 square miles (104 square kilometers). NNSA is responsible for the administration of LANL as one of three National Security Laboratories. LANL provides both the NNSA and DOE with mission support capabilities through its activities and operations, particularly in the area of national security.

Work at LANL includes operations that focus on the safety and reliability of the nation's nuclear weapons stockpile and on programs that reduce global nuclear proliferation. LANL's main role in NNSA mission objectives includes a wide range of scientific and technological capabilities that support nuclear materials handling, processing and fabrication; stockpile management; materials and manufacturing technologies; nonproliferation programs; and waste management activities. LANL supports actinide (any of a series of elements with atomic numbers ranging from actinium-89 through lawrencium-103) science missions ranging from the plutonium-238 heat source program undertaken for the National Aeronautics and Space Administration (NASA) to arms control and technology development.

The capabilities needed to execute NNSA mission activities require facilities at LANL that can be used to handle actinide and other radioactive materials in a safe and secure manner. Of primary importance are the facilities located within the CMR building and the plutonium facility (located in TAs 3 and 55, respectively). Most of the LANL mission support functions require analytical chemistry (AC) and materials characterization (MC), and actinide research and development support capabilities and capacities that currently exist within facilities at the CMR building and that are not available elsewhere. Other unique capabilities are located within the plutonium facility. Work is sometimes moved between the CMR building and the plutonium facility to make use of the full suite of capabilities they provide.

The CMR building is over 50 years old and many of its utility systems and structural components are deteriorating. Studies conducted in the late 1990s identified a seismic fault trace located beneath one of the wings of the CMR building that increases the level of structural integrity required to meet current structural seismic code requirements for a Hazard Category 2 nuclear facility (a Hazard Category 2 nuclear facility is one in which the hazard analysis identifies the potential for significant onsite consequences). Correcting the CMR building's defects by performing repairs and upgrades would be difficult and costly. NNSA cannot continue to operate the assigned LANL mission-critical CMR support capabilities in the existing CMR building at an acceptable level of risk to public and worker health and safety without operational restrictions. These operational restrictions preclude the full implementation of the level of operation DOE decided upon through its 1999 record of decision for the ''Site-wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory'' (DOE/EIS–0238) (LANL SWEIS). Mission-critical CMR capabilities at LANL support NNSA's stockpile stewardship and management strategic objectives; these capabilities are necessary to support the current and future directed stockpile work and campaign activities conducted at LANL. The CMR building is near the end of its useful life and action is required now by NNSA to assess alternatives for continuing these activities for the next 50 years. NNSA needs to act now to provide the physical means for accommodating continuation of the CMR building's functional, mission-critical CMR capabilities beyond 2010 in a safe, secure, and environmentally sound manner.

Alternatives Considered

NNSA evaluated the environmental impacts associated with the proposed relocation of LANL AC and MC, and associated research and development capabilities that currently exist primarily at the CMR building, to a newly constructed facility, and the continued performance of those operations and activities at the new facility for the next 50 years. The CMRR EIS analyzed four action alternatives: (1) The construction and operation of a complete new CMRR facility at TA–55; (2) the construction of the same at a ''greenfield'' location within TA–6; (3) and a ''hybrid'' alternative maintaining administrative offices and support functions at the existing CMR building with a new Hazard Category 2 laboratory facility built at TA–55, and, (4) a ''hybrid'' alternative with the laboratory facility being constructed at TA–6. The CMRR EIS also analyzed the no action alternative. These alternatives are described in greater detail below.

Alternative 1 is to construct a new CMRR facility consisting of two or three new buildings within TA–55 at LANL to house AC and MC capabilities and their attendant support capabilities that currently reside primarily in the existing CMR building, at the operational level identified by the expanded operations alternative for LANL operations in the 1999 LANL SWEIS. Alternative 1 would also involve construction of a parking areas(s), tunnels, vault area(s), and other infrastructure support needs. AC and MC activities would be conducted in either two separate laboratories (constructed either both above ground (construction option 1) or one above and one below ground (construction option 2)) or in one new laboratory (constructed either above ground (construction option 3) or below ground (construction option 4)). An administrative office and support functions building would be constructed separately.

Alternative 2 would construct the same new CMRR facility within TA–6; the TA–6 site is a relatively undeveloped, forested area with some prior disturbance in limited areas that is referred to as a ''greenfield'' site.

Alternatives 3 and 4 are ''hybrid'' alternatives in which the existing CMR building would continue to house administrative offices and support functions for AC and MC capabilities (including research and development) and no new administrative support building would be constructed. Structural and systems upgrades and repairs to portions of the existing CMR building would need to be performed and some portions of the building might be dispositioned. New laboratory facilities (as described for alternative 1) would be constructed either at TA–55 (alternative 3) or at TA–6 (alternative 4).

Under any of the alternatives, disposition of the existing CMR building could include a range of options from no demolition (disposition option 1), to partial demolition (disposition option 2), to demolition of the entire building (disposition option 3).

The no action alternative would involve the continued use of the existing CMR building with some minimal necessary structural and systems upgrades and repairs. Under this alternative, AC and MC capabilities (including research and development), as well as administrative offices and support activities, would remain in the existing CMR building. No new building construction would be undertaken. AC and MC operational levels would continue to be restricted and would not meet the level of operations determined necessary for the foreseeable future at LANL in the 1999 SWEIS record of decision.

Preferred Alternative

In both the draft and the final CMRR EIS, the preferred alternative for the replacement of the existing CMR building is identified as alternative 1 (construct a new CMRR facility at TA–55). The preferred construction option would be the construction of a single consolidated special nuclear material (SNM) capable, Hazard Category 2 laboratory with a separate administrative offices and support functions building (construction option 3). (Special nuclear materials include actinides such as plutonium, uranium enriched in the isotope 233 or 235, and any other material that the U.S. Nuclear Regulatory Commission determines to be special nuclear material.) NNSA's preferred option for the disposition of the existing CMR building is to decontaminate, decommission and demolish the entire structure (disposition option 3). Based on the CMRR EIS, the environmental impacts of the preferred alternative, although minimal, would be expected to be greater than those of the no action alternative. Construction option 3 would have less impact on the environment that implementing construction options 1 or 2; and disposition option 3 would have the greatest environmental impact of the disposition options analyzed.

Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ), in its ''Forty Most Asked Questions Concerning CEQ's NEPA Regulations'' (46 FR 18026, 2/23/81) with regard to 40 CFR 1505.2, defined the ''environmentally preferable alternative'' as the alternative ''that will promote the national environmental policy as expressed in NEPA's section 101''. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources. The CMRR EIS impact analysis indicates that there would be very little difference in the environmental impacts among the action alternatives analyzed and also that the impacts of these action alternatives would be small. After considering impacts to each resource area by alternative, NNSA has identified the no action alternative as the environmentally preferable alternative. The no action alternative was identified as having the fewest direct impacts to the physical environment and to cultural and historic resources. This is because no construction-related disturbances would exist and none of the CMR building would be demolished, as would be the case under any of the action alternatives analyzed for the proposed action, including the preferred alternative. Therefore, the no action alternative would have the fewest impacts.

Environmental Impacts of Alternatives

NNSA analyzed the potential impacts that might occur if any of the four action alternatives or the no action alternative were implemented for land use and visual resources; site infrastructure; air quality and noise; geology and soils; surface and groundwater quality; ecological resources; cultural and paleontological resources; socioeconomics; human health impacts; environmental justice; waste management and pollution prevention. NNSA considered the impacts that might occur from potential accidents associated with the four action alternatives, and the no action alternative as well, on LANL worker and area residential populations. NNSA considered the impacts of each alternative regarding the irreversible or irretrievable commitments of resources, and the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. The CMRR EIS analyses identified minor differences in potential environmental impacts among the action alternatives including: Differences in the amount of land disturbed long term for construction and operations, ranging between about 27 and 23 acres disturbed during construction and between 10 and 15 acres disturbed permanently during operations; and differences in the potential to indirectly affect (but not adversely affect) potential habitat for a federally-listed threatened species and the potential to have no affect on sensitive habitat areas; differences in the potential to affect human health during normal operations and during accident events; differences in waste volumes generated and managed; and differences in transportation accident dose possibilities. A comparison of impacts is discussed in the following paragraphs.

Construction Impacts

Alternative 1 (Construct New CMRR Facility at TA–55; Preferred Alternative): The construction of a new SNM-capable Hazard Category 2 laboratory, an administrative offices and support functions building, SNM vaults and other utility and security structures, and a parking lot at TA–55 would affect 26.75 acres (10.8 hectares) of mostly disturbed land, but would not change the area's current land use designation. The existing infrastructure resources (natural gas, water, electricity) would adequately support construction activities. Construction activities would result in temporary increases in air quality impacts, but resulting criteria pollutant concentrations would be below ambient air quality standards. Construction activities would not impact water, visual resources, geology and soils, or cultural and paleontological resources. Minor indirect effects on potential Mexican spotted owl habitat could result from the removal of a small amount of habitat area, increased site activities, and night-time lighting near the remaining Mexican spotted owl habitat areas. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the region of influence. Waste generated during construction would be adequately managed by the existing LANL management and disposal capabilities.

Alternative 2 (TA–6 Greenfield Alternative): The construction of new SNM-capable Hazard Category 2 and 3 buildings, the construction of an administrative offices and support functions facility, SNM vaults and other utility and security structures, and a parking lot at TA–6 would affect 26.75 acres (10.8 hectares) of undisturbed land, and would change the area's current land use designation to nuclear material research and development, similar to that of TA–55. Infrastructure resources (natural gas, water, electricity) would need to be extended or expanded to TA–6 to support construction activities. Construction activities would result in temporary increases in air quality impacts, but resulting criteria pollutant concentrations would be below ambient air quality standards. It would alter the existing visual character of the central portion of TA–6 from that of a largely natural woodland to an industrial site. Once completed, the new CMRR facility would result in a change in the visual resource contrast rating of TA–6 from Class III (undeveloped land where management activities do not dominate the view) to Class IV (developed land where management activities dominate the view). Construction activities would not impact water, biotic resources (including threatened and endangered species), geology and soils, or cultural and paleontological resources. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the region of influence. Waste generated during construction would be adequately managed by the existing LANL capabilities for handling waste. In addition, a radioactive liquid waste pipeline might also be constructed across Two Mile Canyon to tie in with an existing pipeline to the Radioactive Liquid Waste Treatment Facility (RLWTF) in TA–50.

Alternative 3 (Hybrid Alternative at TA–55): The construction of new Hazard Category 2 and 3 buildings, the construction of SNM vaults and utility and security structures, and the construction of a parking lot at TA–55 would affect 22.75 acres (9.2 hectares) of mostly disturbed land, but would not change the area's current land use designation. The existing infrastructure would adequately support construction activities. Construction activities would result in temporary increases in air quality impacts, but resulting criteria pollutant concentrations would be below ambient air quality standards. Construction activities would not impact water, visual resources, geology and soils, or cultural and paleontological resources. Minor indirect effects on Mexican spotted owl habitat could result from the removal of a small amount of habitat area, increased site activities, and night-time lighting near the remaining Mexican spotted owl habitat areas. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the region of influence. Waste generated during construction would be adequately managed by the existing LANL capabilities for handling waste.

Alternative 4 (Hybrid Alternative at TA–6): The construction of new Hazard Category 2 and 3 buildings, the construction of SNM vaults and utility and security structures, and the construction of a parking lot at TA–6 would affect 22.75 acres (9.2 hectares) of undisturbed land, and would change the area's current land use designation to nuclear material research and development, similar to that of TA–55. Infrastructure resources (natural gas, water, electricity) would need to be extended or expanded at TA–6 to support construction activities. Construction activities would result in temporary increases in air quality impacts, but would be below ambient air quality standards. The existing visual character of the central portion of TA–6 would be altered from that of a largely natural woodland to that of an industrial site. Once completed, the new CMRR facility would result in a change in the visual resource contrast rating of TA–6 from Class III to Class IV. Construction activities would not impact water, visual resources, biotic resources (including threatened and endangered species), geology and soils, or cultural and paleontological resources. The socioeconomic impacts associated with construction would not cause any major changes to employment, housing, or public finance in the socioeconomic region of influence. Waste generated during construction would be adequately managed by the existing LANL capabilities for handling waste. In addition, a radioactive liquid waste pipeline may also be constructed across Two Mile Canyon to tie in with an existing pipeline to the RLWTF at TA–50.

Impacts During the Transition From the CMR Building to the New CMRR Facility Under the Action Alternatives

During a 4-year transition period, CMR operations at the existing CMR building would be moved to the new CMRR facility. During this time, both CMR facilities would be operating, although at reduced levels. At the existing CMR building, where restrictions would remain in effect, operations would decrease as CMR operations move to the new CMRR facility. At the new CMRR facility, levels of CMR operations would increase as the facility becomes fully operational. In addition, the transport of routine onsite shipment of AC and MC samples would continue to take place while both facilities are operating. With both facilities operating at reduced levels at the same time, the combined demand for electricity, and manpower to support transition activities during this period might be higher than would be required by the separate facilities. Nevertheless, the combined total impacts during this transition phase from both these facilities would be expected to be less than the impacts attributed to the expanded operations alternative and the level of CMR operations analyzed in the LANL SWEIS.

Also during the transition phase, the risk of accidents would be changing at both the existing CMR building and the new CMRR facility. At the existing CMR building, the radiological material at risk and associated operations and storage would decline as material and equipment are transferred to the new CMRR facility. This material movement would have the positive effect of reducing the risk of accidents at the CMR building. Conversely, at the new CMRR facility, as the amount of radioactive material at risk and associated operations increases to full operations, the risk of accidents would also increase. However, the improvements in design and technology at the new CMRR facility would also have a positive effect of reducing overall accident risks when compared to the accident risks at the existing CMR building. The expected net effect of both of these facilities operating at the same time during the transition period would be for the risk of accidents to be lower than the accident risks at either the existing CMR building or the fully operational new CMRR facility.

Action Alternatives—Operations Impacts

Relocating CMR operations to a new CMRR facility located at either TA–55 or TA–6 within LANL would require similar facilities, infrastructure support procedures, resources, and numbers of workers during operations. For most environmental areas of concern, operational differences would be minor. There would not be any perceivable differences in impact between the action alternatives for land use and visual resources, air and water quality, biotic resources (including threatened and endangered species), geology and soils, cultural and paleontological resources, power usage, and socioeconomics. Additionally, the new CMRR facility would use existing waste management facilities to treat, store, and dispose of waste materials generated by CMR operations. All impacts would be within regulated limits and would comply with Federal, State, and local laws and regulations. Any transuranic (TRU) waste generated by CMRR facility operations would be treated and packaged in accordance with the Waste Isolation Pilot Plant (WIPP) waste acceptance criteria and transported to WIPP or a similar type facility for disposition by DOE.

Routine operations for each of the action alternatives would increase the amount of radiological releases as compared to current restricted CMR building operations. Current operations at the CMR building do not support the levels of activity described for the expanded operations alternative in the LANL SWEIS. There would be small differences in potential radiological impacts to the public, depending on the location of the new CMRR facility. However, radiation exposure to the public would be small and well below regulatory limits and limits imposed by DOE Orders. The maximally exposed offsite individual would receive a dose of less than or equal to 0.35 millirem per year, which translates to 2.1×10^{-7} latent cancer fatalities per year from routine operational activities at the new CMRR facility. Statistically, this translates into a risk of one chance in 5 million of a fatal cancer for the maximally exposed offsite individual due to these operations. The total dose to the population within 50 miles (80 kilometers) would be a maximum of 2.0 person-rem per year, which translates to 0.0012 latent cancer fatalities per year in the entire population from routine operations at the new CMRR facility. Statistically, this would equate to a chance of one additional fatal cancer among the exposed population every 1,000 years.

Using DOE-approved computer models and analysis techniques, estimates were made of worker and public health and safety risks that could result from potential accidents for each alternative. For all CMRR facility alternatives, the results indicate that statistically there would be no chance of a latent cancer fatality for a worker or member of the public. The CMRR facility accident with the highest risk is a facility-wide spill of radioactive material caused by a severe earthquake that exceeds the design capability of the CMRR facility under Alternative 1. The risk for the entire population for this accident was estimated to be 0.0005 latent cancer fatalities per year.

This value is statistically equivalent to stating that there would be no chance of a latent cancer fatality for an average individual in the population during the lifetime of the facility. Continued operation of the CMR building under the no action alternative would carry a higher risk because of the building's location and greater vulnerability to earthquakes. The risk for the entire population associated with an earthquake at the CMR building would be 0.0024 latent cancer fatalities per year, which is also statistically equivalent to no chance of a latent cancer fatality for an average individual during the lifetime of the facility.

As previously noted, overall CMR operational characteristics at LANL would not change regardless of the ultimate location of the replacement facility and the action alternative implemented. Sampling methods and mission operations in support of AC and MC would not change and, therefore, would not result in any additional environmental or health and safety impacts to LANL. Each of the action alternatives would generally have the same amount of operational impacts. All of the action alternatives would produce equivalent amounts of emissions and radioactive releases into the environment, infrastructure requirements would be the same, and each action alternative would generate the same amount of radioactive and non-radioactive waste, regardless of the ultimate location of the new CMRR facility at LANL. Other impacts that would be common to each of the action alternatives include transportation impacts and CMR building and CMRR facility disposition impacts. Transportation impacts could result from: (1) The one-time movement of SNM, equipment, and other materials during the transition from the existing CMR building to the new CMRR facility; and (2) the routine onsite shipment of AC and MC samples between the plutonium facility at TA–55 and the new CMRR facility. Impacts from the disposition of the existing CMR building and the CMRR facility would result from the decontamination and demolition of the buildings and the transport and disposal of radiological and non-radiological waste materials. All action alternatives would require the relocation and one-time transport of SNM equipment and materials. Transport of SNM, equipment, and other materials currently located at the CMR building to the new CMRR facility at TA–55 or TA–6 would occur over a period of two to four years. The public would not be expected to receive any measurable exposure from the one-time movement of radiological materials associated with this action. Impacts of potential handling and transport accidents during the one-time movement of SNM, equipment, and other materials during the transition from the existing CMR building to the new CMRR facility would be bounded by other facility accidents for each alternative. For all alternatives, the environmental impacts and potential risks of transportation would be small.

Under each action alternative, routine onsite shipments of AC and MC samples consisting of small quantities of radioactive materials and SNM samples would be shipped from the plutonium facility at TA–55 to the new CMRR facility at either TA–55 or TA–6. The public would not be expected to receive any additional measurable exposure from the normal movement of small quantities of radioactive materials and SNM samples between these facilities. The potential risk to a maximally exposed individual (MEI) member of the public from a transportation accident involving routine onsite shipments of AC and MC samples between the plutonium facility and CMRR facility was estimated to be very small (3.7x10–10), or approximately 1 chance in 3 billion. For all action alternatives, the overall environmental impacts and potential risks of transporting AC and MC samples would be small.

Action Alternatives—CMR Building and CMRR Facility Disposition Impacts

All action alternatives would require some level of decontamination and demolition of the existing CMR building. Operations experience at the CMR building indicates some surface contamination has resulted from the conduct of various activities over the last 50 years. Impacts associated with decontamination and demolition of the CMR building are expected to be limited to the creation of waste within LANL site waste management capabilities. This would not be a discriminating factor among the alternatives.

Decontamination, and demolition of the new CMRR facility would also be considered at the end of its designed lifetime operation of at least 50 years. Impacts from the disposition of the CMRR facility would be expected to be similar to those for the existing CMR building.

No Action Alternative: Under the no action alternative there would be no new construction and minimal necessary structural and systems upgrades and repairs. Accordingly, there would be no potential environmental impacts resulting from new construction for this alternative. Operational impacts of continuing CMR operations at the CMR building would be less than those identified under the expanded operations alterative analyzed in the 1999 LANL SWEIS due to the operating constraints imposed on radiological operations at the CMR building.

Comments on the Final Environmental Impact Statement

NNSA distributed approximately 400 copies of the final EIS to Congressional members and committees, the State of New Mexico, various American Indian tribal governments and organizations, local governments, other Federal agencies, and the general public. NNSA received one comment letter from the Pueblo of San Ildefonso regarding NNSA's responses to Pueblo concerns related to the draft CMRR EIS that focused primarily on the spread of contamination present in the canyons around LANL onto land owned by the Pueblo. This issue is beyond the scope of the CMRR EIS but will be addressed by NNSA through other means already established for LANL, such as the environmental restoration project, rather than through the NEPA compliance process.

Decision Factors

NNSA's decisions are based on its mission responsibilities and the ability to continue to perform mission-critical AC and MC operations at LANL in an environmentally sound, timely and fiscally prudent manner. Other key factors in the decision-making process include programmatic impacts and overall program risk, and construction and operational costs.

LANL's CMR operations support a wide range of scientific and technological capabilities that support, in turn, NNSA's national security mission assignments. Most of the LANL mission support functions require AC and MC, and actinide research and development support capabilities and capacities that currently exist within the CMR building. NNSA will continue to need CMR capabilities now and into the foreseeable future, much as these capabilities have been needed at LANL over the past 60 years. Programmatic risks are high if LANL CMR operations continue at the curtailed operational level now appropriate at the aging CMR building. CMR operations at LANL need to continue seamlessly in an uninterrupted fashion, and the level of overall CMR operations needs to be flexible enough to accommodate the work load variations inherent in NNSA's mission support assignments and the general increase in the level of operations currently seen as necessary to support future national security requirements.

The CMR building was initially designed and constructed to comply with the Uniform Buildings Codes in effect at the time. The CMR building's wing 4 location over a seismic trace would require very extensive and costly structural changes that would be of marginal operational return. Construction costs are estimated to be less for building and operating a new CMRR facility over the long term than the cost estimated for making changes to the aging CMR building so that the building could be operated as a nuclear facility at the level of operations required by the expanded operations alternative selected for LANL in the 1999 LANL SWEIS ROD over the next 50 years. Life cycle costs of operating a new CMRR facility at TA–55 are less than the costs would be of operating a totally upgraded CMR building over the next 50 years. Reduced general occupation costs of maintaining the new CMRR facility (such as heating and cooling the building to maintain comfortable personnel working conditions) given the reduction in occupied building square footage over that of the existing CMR building, and reduced security costs (for maintaining Perimeter Intrusion Detection Alarm Systems (PIDAS) and guard personnel) due to the co-location of the CMRR facility within the existing security perimeter of the plutonium facility thereby eliminating the need for maintaining a separate duplicative security system at the CMR building both would significantly reduce general operating costs for the new facility.

Mitigation Measures

Based on the analyses of impacts provided in the CMRR EIS, no mitigation measures were identified as being necessary since all potential environmental impacts would be substantially below acceptable levels of promulgated standards. Activities associated with the proposed construction of the new CMRR facility would follow standard procedures for minimizing construction impacts, as would demolition activities.

Decisions

NNSA has decided to implement the preferred alternative, alternative 1, which is the construction and operation of a new CMRR facility within TA–55 at LANL. The new CMRR facility would include two buildings (one building for administrative and support functions, and one building for Hazard Category 2 SNM laboratory operations), both of which would be constructed at above ground locations (construction option 3). The existing CMR building would be decontaminated, decommissioned and demolished in its entirety (disposition option 3). However, the actual implementation of these decisions is dependent on DOE funding levels and allocations of the DOE budget across competing priorities.

Issued in Washington, DC, this 3rd day of February, 2004.

Linton Brooks,

Administrator, National Nuclear Security Administration.

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APPENDIX B
ENVIRONMENTAL IMPACTS METHODOLOGIES

APPENDIX B
ENVIRONMENTAL IMPACTS METHODOLOGIES

This appendix briefly describes the methods used to assess the potential direct, indirect, and cumulative effects of the alternatives in this *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)*. Included are impact assessment methods for land use and visual resources, site infrastructure, air quality, noise, geology and soils, surface-water and groundwater quality, ecological resources, cultural and paleontological resources, socioeconomics, environmental justice, human health, waste management and pollution prevention, transportation and traffic, and cumulative impacts. Each section includes descriptions of the affected resources, region of influence (ROI), and impact assessment methods.

The methods described in this appendix are also used to assess the effects of operating the Radiological Laboratory/Utility/Office Building (RLUOB). RLUOB is complete and was built to provide administrative and support functions to the Chemistry and Metallurgy Research Building Replacement (CMRR) Nuclear Facility (CMRR-NF).

Impact analyses vary for each resource area. For air quality, for example, estimated pollutant emissions from the candidate facilities were compared with appropriate regulatory standards or guidelines. Comparison with regulatory standards is a commonly used method for benchmarking environmental impacts, and is done here to provide perspective on the magnitude of identified impacts. For waste management, waste generation rates were compared with the capacities of waste management facilities. Impacts within each resource area were analyzed consistently; that is, the impact values were estimated using a consistent set of input variables and computations. Moreover, calculations in all resource areas used accepted protocols and up-to-date models.

The baseline conditions assessed in this *CMRR-NF SEIS* are consistent with conditions under the No Action Alternative described in the 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory, Los Alamos, New Mexico* (*LANL SWEIS*) (DOE 2008), and updated in the SWEIS Yearbooks (most recently in 2010) and site environmental reports (most recently in 2009). These decisions include the programmatic level of operations at Los Alamos National Laboratory (LANL) facilities (including the CMRR Facility, which comprises both the CMRR-NF and RLUOB) for at least the next 5 years, as well as project-specific decisions for individual projects at LANL, including those at Technical Area 55 and within surrounding and nearby technical areas along the Pajarito Road corridor. The No Action Alternative was used as the basis for the comparison of impacts that would occur under implementation of the other alternatives.

B.1 Land Use and Visual Resources

B.1.1 Land Use

B.1.1.1 Description of Affected Resources and Region of Influence

Land use is defined in terms of the kinds of anthropogenic activities (for example, agriculture, residential, industrial) for which land is developed (EPA 2006). Natural resources and other environmentally characteristic attributes make a site more suitable for some land uses than for others. Changes in land use may have beneficial or adverse ecological, cultural, geologic, and atmospheric effects on other resources. The ROI for land use varies due to the extent of land ownership, adjacent land use patterns and trends, and other geographic or safety considerations, but generally includes the site and areas immediately adjacent to the site.

B.1.1.2 Description of Impact Assessment

The amount of land disturbed and conformity with existing land use were considered for the purpose of evaluating the impacts of construction and operation at each candidate site (see **Table B–1**). Both factors were considered for each of the action alternatives. However, because new construction would not take place under the Continued Use of CMR Building Alternative, only conformity with existing land use was evaluated under this alternative. Land use impacts could vary considerably from site to site, depending on the extent of construction activities and the location(s) (that is, undeveloped or developed land) where they would take place.

Table B–1 Impact Assessment Protocol for Land Resources

	Required Data		
Resource	***Affected Environment***	***Alternative***	***Measure of Impact***
Land area used	Site acreage	CMRR Project activity location and acreage requirement	Acreage converted to CMRR Project use
Compatibility with existing or future land use	Existing land use configurations	Location of CMRR Project activity on the site and expected modifications of current activities and missions to accommodate the alternatives	Incompatibility with existing or future land use
Visual resources	Current Visual Resource Management classification	Location of CMRR Project activity on the site and activity dimensions and appearance	Change in Visual Resource Management classification

CMRR = Chemistry and Metallurgy Research Building Replacement.

B.1.2 Visual Resources

B.1.2.1 Description of Affected Resources and Region of Influence

Visual resources are the natural and manmade features that give a particular landscape its character and aesthetic quality. Landscape character is determined by the visual elements of form, line, color, and texture. All four elements are present in every landscape; however, they exert varying degrees of influence. The stronger the influence exerted by these elements in a landscape, the more interesting the landscape. The ROI for visual resources includes the geographic area from which the candidate facilities may be seen.

B.1.2.2 Description of Impact Assessment

Impacts on visual resources from construction of the CMRR-NF and operation of the CMRR-NF and RLUOB at LANL may be determined by evaluating whether the U.S. Bureau of Land Management Visual Resource Management classifications of the candidate sites would change as a result of the proposed alternatives (DOI 1986) (see Table B–1). Existing classifications were derived from an inventory of scenic qualities, sensitivity levels, and distance zones for particular areas. For those alternatives involving existing facilities at LANL, alterations to visual features may be readily evaluated and the impact on the current Visual Resource Management classification may be determined. To determine the range of potential visual effects from new CMRR Project activities, the analysis considered the potential impacts of construction and operation on the aesthetic quality of surrounding areas, as well as the visibility of such activities from public vantage points.

B.2 Site Infrastructure

B.2.1 Description of Affected Resources and Region of Influence

Site infrastructure includes the utility systems required to support construction and/or modification and operation of the candidate facility. It includes the capacities of the electric power transmission and distribution system, natural gas and liquid fuel (fuel oil, diesel fuel, and gasoline) supply systems, and the water supply system. The ROI for utility infrastructure resources includes the LANL site, including the affected technical areas and the individual facilities, and the surrounding area to include non-LANL users who rely on the same utility systems (electric power, natural gas, and water) that serve LANL.

B.2.2 Description of Impact Assessment

In general, infrastructure impacts were assessed by evaluating the requirements under each alternative against the site capacity and/or the system capacity. An impact assessment was made for each resource (electricity, fuel, and water) under the various alternatives (see **Table B–2**). Tables reflecting site availability and infrastructure requirements were developed for each alternative. Data for these tables were obtained from reports describing the existing site and regional infrastructure and from the data reports for each alternative. If necessary, design mitigation considerations conducive to reduction of the infrastructure demand were also identified.

Table B–2 Impact Assessment Protocol for Infrastructure

Resource	*Required Data*		*Measure of Impact*
	Affected Environment	*Alternative*	
Electricity			
Energy consumption (megawatt-hours per year) Peak load (megawatts)	Site and system capacity and current usage	Facility requirements	Additional requirement (with added facilities) exceeding site/system capacity
Fuel			
Natural gas (cubic meters per year)	System capacity and current usage	Facility requirements	Additional requirement (with added facilities) exceeding system capacity
Water (liters per year)	Site and system capacity and current usage	Facility requirements	Additional requirement (with added facilities) exceeding site/system capacity

Any projected demand for infrastructure resources exceeding site or system availability can be regarded as an indicator of environmental impact. Whenever projected demand approaches or exceeds capacity, further analysis of that resource is warranted. Often, design changes can mitigate the impact of additional demand for a given resource. For example, substituting fuel oil for natural gas (or vice versa) for heating or industrial processes can be accomplished at little cost during the design of a facility if the potential for impact is identified early. Similarly, a dramatic spike or surge in peak demand for electricity can sometimes be mitigated by upgrading the existing infrastructure.

B.2.3 Sustainable Building

Executive Orders 13423 and 13514 require Federal agencies to meet specific sustainability goals in terms of conserving non-renewable resources and reducing emissions of pollutants. Several U.S. Department of Energy (DOE) orders define requirements to meet these goals. DOE Order 413.3B addresses the internal management processes for acquisition of high-performing facilities. This order also lays out a series of critical decision points that develop project goals and objectives and refine project parameters, including goals for sustainability. Through this process, design development progresses in tandem with decisions about cost and budget during the project life cycle. DOE Order 430.2B defines the specific benchmarks for measuring progress toward achieving the sustainability goals, including reductions in greenhouse gas emissions and energy and water use, established in Executive Order 13423. DOE Order 436.1, *Departmental Sustainability* (May 2, 2011), has the broader purpose of providing requirements and responsibilities for managing sustainability within DOE to: (1) ensure DOE carries out its mission to balance national energy security and environmental challenges while advancing sustainable, efficient, and reliable energy for the future, (2) institute a wholesale cultural change to factor sustainability and greenhouse gas reductions into all DOE management decisions, and (3) ensure DOE achieves its sustainability goals as defined in its Strategic Sustainability Performance Plan. This order cancels DOE 450.1A, *Environmental Protection Program* (June 4, 2008) and 430.2B, *Departmental Energy, Renewable Energy and Transportation Management* (February 27, 2008), but does not cancel the contractual or regulatory obligations of these orders. It also adheres to the requirements of Executive Orders 13423 and 13514. In addition, it makes it necessary for sites (such as LANL) to include site-wide objectives and targets in their environmental management system that align with DOE Order 430.2B. These orders pave the way toward making sustainability an active principle for DOE sites and facilities. For additional information on applicable laws, regulations, and other requirements, see Chapter 5.

Sustainability requires implementation of a comprehensive plan of action. One strategy is to design, construct, and operate more-efficient and environmentally responsible buildings. To this end, the U.S. Green Building Council developed the Leadership in Energy and Environmental Design® (LEED) building certification system to provide independent, third-party verification that a building or community is designed and built using strategies aimed at improving performance across metrics such as energy savings, water efficiency, carbon dioxide emissions reduction, improved indoor environmental quality, resource stewardship, and sensitivity to the impacts of construction and operation. The LEED system certifies building performance via a voluntary rating system based on a consensus-based national standard derived from technical criteria and professional knowledge.

The LEED system uses various rating criteria for new construction (including homes, schools, commercial and industrial facilities), renovations to existing buildings (residential, commercial, and industrial), and neighborhood design. The LEED system uses the following six areas to rate a project's sustainable design proficiency:

- Sustainable sites
- Water efficiency and quality
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovative design

Within these areas, a project is scored on specific measures to earn "credits." The sum of the earned credits determines the total score and certification level achieved by the project (Certified, Silver, Gold, or Platinum levels). The advantage of project certification is not only demonstrable energy and environmental consideration, but also recognition and status in a value-driven market (for commercial endeavors) and long-term cost savings for operating and maintaining a sustainable facility.

The LEED certification process starts in the design phase and drives decisions regarding the six key areas above. LEED rating criteria, for example, address material and product selection, construction methods, and waste management, as well as post-construction commissioning of the building to ensure lifetime optimal performance. Previously, DOE Order 430.2B[1] required all DOE projects to incorporate LEED certification measures into the design/build process. DOE Order 430.2B specified that LEED Gold certification applies to all new buildings and major renovations that were in the Critical Decision-1 (CD-1) stage or lower (CD-0) of project development on October 1, 2008. Because the CD-1 decision for the CMRR-NF was made on May 18, 2005, Gold-level certification was not yet a formulating criterion for this project. Notwithstanding, other DOE orders and directives made sustainability and high building performance a key factor. As such, LEED certification was included as a contractual requirement during the design phase for the CMRR-NF. Since then, DOE Order 436.1 no longer requires LEED certification specifically, but makes sustainability and energy efficiency essential parameters for all DOE undertakings. It also supports ongoing contractual requirements that meet the purpose of sustainability and the requirements of Executive Orders 13423 and 13514. LEED construction continues to be one method for DOE to progress toward the sustainable goals required by these two executive orders.

The LEED system assessment for this *CMRR-NF SEIS* considers whether proposed construction projects incorporate LEED strategies to minimize potential use of energy and water. Because LEED offers six areas of achievement, certification may result from a combination of factors, not just reduced energy and water use. LEED construction is one method for DOE to achieve the sustainable goals required under Executive Orders 13423 and 13514. Implementation of the proposed project, in combination with other actions and sustainability initiatives at LANL, is considered in the cumulative impacts analysis in this *CMRR-NF SEIS*. The assessment describes qualitatively how LEED certification of the CMRR-NF would factor into site-wide progress toward meeting sustainability goals (see Chapter 4, Section 4.6).

RLUOB, which has already been built and will provide administrative and support functions to the CMRR-NF, is anticipated to be awarded LEED Silver Certification for new construction.

B.3 Air Quality

B.3.1 Description of Affected Resources and Region of Influence

Air pollution refers to the direct or indirect introduction of any substance into the air that could endanger human health, harm living resources and ecosystems, damage material property, or impair or interfere with the comfortable enjoyment of life and other legitimate uses of the environment.

For the purpose of this *CMRR-NF SEIS*, only outdoor air pollutants were addressed. These outdoor air pollutants may be in the form of solid particles, liquid droplets, gases, or a combination of these forms. Generally, they can be categorized as primary pollutants (those emitted directly from identifiable sources) and secondary pollutants (those produced in the air by interaction between two or more primary pollutants or by reaction with normal atmospheric constituents that may be influenced by sunlight). Air pollutants are transported, dispersed, or concentrated by meteorological and topographical conditions. Thus, air quality is affected by air pollutant emission characteristics, meteorology, and topography.

Ambient air quality in a given location can be described by comparing the concentrations of various pollutants in the atmosphere to the appropriate standards established by Federal and state agencies. These ambient air quality standards allow an adequate margin of safety for the protection of public health and welfare from the adverse effects of pollutants in ambient air. Pollutant concentrations higher than the

[1] *LEED requirement from DOE Order 430.2B: "The installation of sustainable building materials and practices throughout the Department's existing building assets and the attainment of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Gold certification for all new construction and major building renovations in excess of $5 million. All buildings falling below this threshold are required to comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles)."*

corresponding standards are considered unhealthy; concentrations below such standards are considered acceptable.

The pollutants of concern are primarily those for which Federal and state ambient air quality standards have been established, including criteria air pollutants, hazardous air pollutants, and other toxic air compounds. Criteria air pollutants are those listed in Title 40 of the *Code of Federal Regulations* (CFR), Part 50 (40 CFR Part 50), "National Primary and Secondary Ambient Air Quality Standards." Hazardous air pollutants and other toxic compounds are those listed in Title I of the Clean Air Act, as amended (40 *United States Code* [U.S.C.] 7401 et seq.), those regulated by the National Emissions Standards for Hazardous Air Pollutants (40 CFR Part 61), and those that have been proposed or adopted for regulation by the applicable states or listed in state guidelines. States may set ambient standards that are more stringent than the National Ambient Air Quality Standards (NAAQS). The more stringent of the Federal or state standards for each pollutant are discussed in this document.

Areas with air quality better than the NAAQS for criteria air pollutants are designated as "attainment," while areas with air quality worse than the NAAQS for such pollutants are designated as "nonattainment." Areas may be designated as "unclassified" when there are insufficient data for attainment status designation. Attainment status designations are assigned by county; metropolitan statistical area; consolidated metropolitan statistical area, or portions thereof; or air quality control regions. Air quality control regions designated by the U.S. Environmental Protection Agency (EPA) are listed in 40 CFR Part 81, "Designation of Areas for Air Quality Planning Purposes." LANL is located in an attainment area (40 CFR 81.332).

For locations that are in an attainment area for criteria air pollutants, Prevention of Significant Deterioration regulations limit pollutant emissions from new or modified sources and establish allowable increments of pollutant concentrations. Three Prevention of Significant Deterioration classifications are specified according to the criteria established in the Clean Air Act. Class I areas include national wilderness areas and memorial parks larger than 5,000 acres (2,020 hectares), national parks larger than 6,000 acres (2,430 hectares), and areas that have been redesignated as Class I. Class II areas are all areas that are not designated as Class I (42 U.S.C. 7472, Title I, Section 162). LANL is in a Class II area; it is adjacent to the Bandelier National Monument and Wilderness Area Class I area (DOE 2008).

The ROI for air quality encompasses the area surrounding a candidate site that is potentially affected by air pollutant emissions caused by the alternatives. The air quality impact area normally evaluated is the area in a Class II area in which concentrations of criteria pollutants would increase more than a significant amount. This determination is based on averaging periods and acceptable concentrations established for specific pollutants: 1 microgram per cubic meter for the annual average for sulfur dioxide, nitrogen dioxide, and particulate matter less than or equal to 10 microns in aerodynamic diameter (PM_{10}); 5 micrograms per cubic meter for the 24-hour average for sulfur dioxide and PM_{10}; 500 micrograms per cubic meter for the 8-hour average for carbon monoxide; 25 micrograms per cubic meter for the 3-hour average for sulfur dioxide; and 2,000 micrograms for the 1-hour average for carbon monoxide (40 CFR 51.165). Averaging periods are the average rate or rates at which a source emits a pollutant during the stated period of 1 hour, 3 hours, 8 hours, 24 hours, or a year. Generally, this area covers a few kilometers downwind from the source. For sources within 60 miles (100 kilometers) of a Class I area, the air quality impact area evaluated would include the Class I area if the increase in concentration were greater than 1 microgram per cubic meter (24-hour average). The area of the ROI depends on the emission source characteristics, pollutant types, emission rates, and meteorological and topographical conditions. For analysis purposes, the impacts were evaluated at the site boundary and along roads within the site to which the public has access, plus any additional area in which contributions to pollutant concentrations are expected to exceed significance levels.

Baseline air quality is typically described in terms of the pollutant concentrations modeled for existing sources at each candidate site and the background air pollutant concentrations measured near the sites. For this analysis, concentration estimates for existing sources were obtained from the 2008 *LANL SWEIS* and from concentrations models using recent emissions inventories and the AERMOD Version 09292 screening model AERSCREEN. The AERSCREEN model produces concentration estimates that are equal to or greater than the estimates produced by AERMOD, which provides a "worst-case" scenario (EPA 2010a). As of December 9, 2006, EPA's promulgated AERMOD package replaced the ISC3 (Industrial Source Complex) dispersion model (EPA 2010b). Thus, the most recent model was used to determine air emissions.

B.3.2 Description of Impact Assessment

Potential air quality impacts of pollutant emissions from construction and normal operations under each alternative were evaluated. This assessment included a comparison of pollutant concentrations under each alternative with applicable Federal and state ambient air quality standards (see **Table B–3**). If both Federal and state standards exist for a given pollutant and averaging period, compliance was evaluated using the more stringent standard. Operational air pollutant emissions data for each alternative were based on conservative engineering analyses.

Table B–3 Impact Assessment Protocol for Air Quality

Resource	Required Data		Measure of Impact
	Affected Environment	*Alternative*	
Criteria air pollutants and other regulated pollutants [a]	Measured and modeled ambient concentrations (micrograms per cubic meter) from existing sources at the site	Emission rates (kilograms per year) of air pollutants from facility; source characteristics (stack height and diameter, exit temperature and velocity)	Concentration under the alternatives and total site concentration of each pollutant at or beyond the site boundary or within the boundary on public roads, as compared to applicable standards
Toxic and hazardous air pollutants [b]	Measured and modeled ambient concentrations (micrograms per cubic meter) from existing sources at the site	Emission rates (kilograms per year) of air pollutants from facility; source characteristics (stack height and diameter, exit temperature and velocity)	Concentration under the alternatives and total site concentration of each pollutant at or beyond the site boundary or within the boundary on public roads, which were used to calculate the hazard quotient or cancer risk

[a] Carbon monoxide; hydrogen fluoride; lead; nitrogen oxides; ozone; particulate matter less than or equal to 10 microns in aerodynamic diameter; sulfur dioxide; total suspended particulates.
[b] Clean Air Act (40 U.S.C. 7401 et seq.), Section 112(d), hazardous air pollutant: pollutants regulated under the National Emissions Standard for Hazardous Air Pollutants and other state-regulated pollutants.

Contributions to offsite air pollutant concentrations under each alternative were modeled based on guidance provided in EPA's "Guidelines on Air Quality Models" (40 CFR Part 51, Appendix W). EPA's recommended model AERSCREEN (EPA 2010a) was selected as an appropriate model for air dispersion modeling because it is designed to support the EPA regulatory modeling program and it predicts conservative, worst-case impacts.

The modeling analysis incorporated conservative assumptions, which tended to overestimate pollutant concentrations. The maximum modeled concentration for each pollutant and averaging period was selected for comparison with the applicable standard. The concentrations evaluated were the maximum concentrations occurring at or beyond the site boundary and at a public access road or other publicly accessible area within the site. Available monitoring data, which reflect both onsite and offsite sources, were also taken into consideration. Concentrations of the criteria air pollutants were presented for each alternative. Concentrations of hazardous and toxic air pollutants were evaluated in the public and occupational health effects analysis. At least 1 year of representative hourly meteorological data was used.

Ozone is typically formed as a secondary pollutant in the ambient air (troposphere). It is formed in the presence of sunlight from the mixing of primary pollutants, such as nitrogen oxides, and volatile organic compounds that emanate from vehicular (mobile) sources and natural and other stationary sources. Ozone is not emitted directly as a pollutant from the candidate sites. Although ozone may be regarded as a regional issue, specific ozone precursors, notably nitrogen dioxide and volatile organic compounds, were analyzed because they are applicable to the alternatives under consideration.

The Clean Air Act, as amended, requires that Federal actions conform to the host state's "state implementation plan." A state implementation plan provides for implementation, maintenance, and enforcement of the NAAQS for the six criteria pollutants: sulfur dioxide, PM_{10}, carbon monoxide, ozone, nitrogen dioxide, and lead. Its purpose is to eliminate or reduce the severity and number of violations of the NAAQS and to expedite attainment of these standards. "No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity that does not conform to an applicable implementation plan" (42 U.S.C. 7506). The final rule for "Determining Conformity of General Federal Actions to State or Federal Implementation Plans" (58 *Federal Register* [FR] 63214) took effect on January 31, 1994. LANL is within an area currently designated as in attainment for criteria air pollutants. Therefore, the alternatives being considered in this *CMRR-NF SEIS* are not affected by the provisions of the conformity rule.

Emissions of potential stratospheric ozone-depleting compounds, such as chlorofluorocarbons, were not evaluated because no emissions of these pollutants were identified in the conceptual engineering design reports.

B.3.3 Greenhouse Gases

On February 18, 2010, the Council on Environmental Quality (CEQ) released its *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* (CEQ 2010), which suggests that proposed alternatives that are reasonably anticipated to emit 25,000 metric tons or more of direct carbon dioxide equivalent air emissions should be evaluated by quantitative and qualitative assessments. This is not a threshold of significance, but an indicator that a quantitative and qualitative assessment may be meaningful to decisionmakers and the public, and should be considered in documentation required by the National Environmental Policy Act (NEPA), as amended (42 U.S.C. 4321 et seq.). Quantitative analysis of greenhouse gas emissions (carbon-dioxide equivalent air emissions) in this *CMRR-NF SEIS* may be useful in making reasoned choices among the alternatives. Neither the CEQ nor EPA has issued final guidance regarding how to address greenhouse gas/climate change impacts under NEPA.

The greenhouse gas analysis assessed the impacts, where applicable, of four of the six primary greenhouse gases; carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons, as defined in accordance with Section 19(i) of Executive Order 13514. The two primary greenhouse gases that were excluded from analysis are perfluorocarbons and sulfur hexafluoride, as there were no measureable sources from construction or operation of the facility under any alternative.

The predominant source of anthropogenic carbon dioxide emissions is combustion of fossil fuels. Forest clearing, other biomass burning, and some non-energy-production processes (for example, cement production) also emit notable quantities of carbon dioxide. Another greenhouse gas, methane, comes from landfills, coal mines, oil and gas operations, and agriculture. Anthropogenic sources of nitrous oxide emissions include burning fossil fuels and the use of certain fertilizers and industrial processes. Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are powerful, synthetic greenhouse gases that are released as byproducts of industrial processes and through leakage.

The following section describes the methodology used for the quantitative greenhouse gas analysis in this *CMRR-NF SEIS*.

B.3.3.1 Description of Impact Assessment

The potential impacts of greenhouse gas emissions of carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from construction and operation under each alternative were evaluated, where applicable. The annual and total greenhouse gas emissions that would result from construction and operation of the proposed CMRR-NF, including emissions from onsite construction equipment, construction material transport, use of propane heaters in the winter months during construction, worker commutes, occasional use of emergency generators, and refrigerant usage during operation of the facility, were calculated. Cement for construction purposes would be produced at an electric cement batch plant. Emissions from electricity consumption during cement production and the CMRR facility operation are not under the direct control of LANL, and do not occur directly on site, but have been included under environmental consequences. Under the analysis of operations, the impacts from the normal operation of RLUOB were also analyzed.

B.3.3.1.1 Summary of Calculations

All calculations follow the guidance provided by EPA for greenhouse gas inventory calculations (EPA 2008, 2009). Emission factors (**Table B–4**) and global warming potentials (**Table B–5**) were chosen based on this guidance.

Table B–4 Emission Factors Used in the Construction and Operations Analysis of the Alternatives

Emission Factors (diesel) [a]		
Pounds Carbon Dioxide per Gallon	**Pounds Methane per Gallon**	**Pounds Nitrous Oxide per Gallon**
22.4	0.000097354	0.00010344
Emission Factors (gasoline) [a]		
Pounds Carbon Dioxide per Gallon	**Pounds Methane per Gallon**	**Pounds Nitrous Oxide per Gallon**
19.5	0. 0016152	0. 001466
Electricity Generation Emission Factors [b]		
Pounds Carbon Dioxide per Megawatt-Hour	**Pounds Methane per Megawatt-Hour**	**Pounds Nitrous Oxide per Megawatt-Hour**
1,311.05	0.01745	0.01794

[a] EPA 2003.
[b] EPA 2010c.

Table B–5 Global Warming Potential for Major Greenhouse Gases

Chemical Name	*Global Warming Potential* [a]
Carbon dioxide	1
Methane [b]	21
Nitrous oxide	310
Hydrofluorocarbons	1,300

[a] 100-year time horizon.
[b] The global warming potential of methane includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of carbon dioxide is not included.
Source: IPCC 2007.

Construction Equipment

Construction of the CMRR-NF requires various types of construction equipment or nonroad vehicles. The following data were required to calculate the emissions for contractor-owned (nonroad) highway vehicles:

- Vehicle class
- Vehicle hours of operation
- Fuel type
- Average fuel consumption rate
- Emission factor
- Global warming potentials

Specific data were given on the types of equipment, fuel type, and hours of operation (LANL 2011a:Greenhouse Gases, 016). Emissions factors and global warming potentials are shown in Table B–4 and Table B–5. A fuel consumption rate of 4 gallons (15 liters) per hour was assumed.

Materials Transport

The following data were required to calculate the emissions for delivery trucks:

- Vehicle class
- Vehicle miles traveled
- Fuel type
- Average fuel efficiency
- Emission factor
- Global warming potentials

Specific information on the type of vehicle class for the delivery trucks was not available; therefore, it was assumed that they are hybrid diesel vehicles with an average fuel efficiency of 7.8 miles per gallon (3.3 kilometers per liter) (EPA 2003). Section B.14 describes the methodology used to estimate the number of trips made and distance traveled by each truck evaluated in this analysis.

Privately Owned Vehicles

Greenhouse gas emissions from privately owned vehicles (POVs) were calculated assuming one vehicle per construction worker. Data similar to those used for delivery trucks emissions were used to calculate emissions from construction worker commutes. Specific information on the type of vehicle classes was not available; therefore, it was assumed that light-duty gasoline vehicles with an average fuel efficiency of 22.1 miles per gallon (9.4 kilometers per liter) are the only POVs used. This is an average of the fuel efficiency of light-duty gasoline cars (24.1 miles per gallon [10.2 kilometers per liter]) and light-duty trucks (16.4 miles per gallon [7.0 kilometers per liter]) (EPA 2003). It was also assumed that workers had a 30-mile (48-kilometer) round-trip commute to the central parking area, where they board transport buses. This section also includes the bus transport to the construction site from the parking area and back.

Electricity Consumption

Greenhouse gas emissions from cement batch plant electricity use were calculated using the electricity consumption data given in Section B.2, "Site Infrastructure." The electricity generation emission factors are shown in Table B–4. Emissions of greenhouse gases were calculated by taking the amount of electricity consumed and multiplying it by the emissions factor and the appropriate global warming potential.

Propane Heaters

During construction, propane heaters will be used during the winter months. The emissions factors for propane are listed in **Table B–6**.

Table B–6 Greenhouse Gas Emissions Factors for Propane

Chemical Name	*Emissions Factors*
Carbon dioxide	12.7739 pounds per gallon
Methane	1.217×10^{-4} pounds per gallon
Nitrous oxide	1.217×10^{-4} pounds per gallon

Source: USEPA 2009:Table C-1.

Data on the annual amount of propane consumed was provided by LANL (2011a:Infrastructure, 026).

Operations

Emissions of greenhouse gases (carbon dioxide, methane, nitrous oxide, and fluorinated gases) that would be associated with normal operation of the proposed CMRR-NF and RLUOB were quantified. This included offsite emissions associated with production of the electricity used on site.

The only direct greenhouse gas emissions from operation of the CMRR-NF and RLUOB are from occasional use of emergency generators and refrigerants on site to cool the buildings.

Emergency Backup Generators

Greenhouse gas emissions for the occasional operation of emergency backup diesel generators were calculated. Three 1,500-kilowatt diesel generators would operate at RLUOB. The following emergency generators would operate at the Modified CMRR-NF:

- Two 1,780-kilovolt-ampere
- One 3,000-kilovolt-ampere
- One 800-kilovolt-ampere

It was assumed that these emergency generators would potentially operate only 36 hours per year (once a month for 1 hour and once a year for 24 hours). It was also assumed that they would operate at 74 percent load (USAF 2003).

Refrigerants

Emissions from the refrigerants were calculated by taking the amount of material used multiplied by the appropriate global warming potential (Table B–5). Data on the refrigerants used in the CMR Building (which would also be used in the proposed CMRR-NF and RLUOB) show that HFC-134a [1,1,1,2-tetrafluoroethane] is the only refrigerant currently in use (LANL 2011a:Greenhouse Gases, 017).

Electricity Consumption

Greenhouse gas emissions from electricity generation were calculated using the electricity consumption data given in Section B.2, Site Infrastructure. The electricity generation emission factors are shown in Table B–4. Emissions of greenhouse gases were calculated by taking the amount of electricity consumed and multiplying it by the emissions factor and the appropriate global warming potential.

The various greenhouse gas emissions were added together and are presented as carbon-dioxide equivalent emissions—a sum that describes the quantity of each greenhouse gas weighted by a factor of its effectiveness as a greenhouse gas, using carbon dioxide as a reference. This is achieved by multiplying the quantity of each greenhouse gas emitted by a factor called the global warming potential. The global warming potential accounts for the lifetime and the radiative forcing of each gas over a period of 100 years (for example, carbon dioxide has a much shorter atmospheric lifetime than sulfur hexafluoride; therefore, it has a much lower global warming potential). The global warming potentials for the main greenhouse gases discussed are presented in Table B–5.

B.4 Noise

B.4.1 Description of Affected Resources and Region of Influence

Sound results from the compression and expansion of air or some other medium when an impulse is transmitted through it. Sound requires a source of energy and a medium for transmitting the sound wave. Propagation of sound is affected by various factors, including meteorology, topography, and barriers. Noise is undesirable sound that interferes or interacts negatively with the human or natural environment. Noise may disrupt normal activities (hearing and sleep), damage hearing, or diminish the quality of the environment.

Sound-level measurements used to evaluate the effects of nonimpulsive sound on humans are compensated by an A-weighting scale that accounts for the hearing response characteristics (frequency) of the human ear. Sound levels are expressed in decibels, or in the case of A-weighted measurements, decibels A-weighted. EPA has developed noise level guidelines for different land use classifications. Some states and localities have established noise control regulations or zoning ordinances that specify acceptable noise levels by land use category.

Noise from facility operations and associated traffic could affect human and animal populations. The ROI for each candidate site includes the site, nearby offsite areas, and transportation corridors where proposed activities might increase noise levels. Transportation corridors most likely to experience increased noise levels are those roads within a few miles of the site boundary that carry most of the site's employee and shipping traffic.

Sound-level data representative of site environs were obtained from existing reports. The acoustic environment was further described in terms of existing noise sources for each candidate site.

B.4.2 Description of Impact Assessment

Construction noise was evaluated using the Roadway Construction Noise Model, version 1.00, the U.S. Federal Highway Administration's standard model for prediction of construction noise (DOT 2006). The Roadway Construction Noise Model has the capability to model the types of construction equipment that are expected to be the dominant construction-related noise sources associated with this action. All construction noise analyses were assumed to make use of a standard set of construction equipment.

Noise impacts associated with the alternatives may result from construction and operation of facilities and increased traffic (see **Table B–7**). The impacts of facility construction and operation were assessed according to the types of noise sources and the locations of the candidate facilities relative to the site boundary. Potential traffic noise impacts were based on the likely increase in traffic volume. Possible impacts on wildlife were evaluated based on the possibility of sudden loud noises occurring during facility construction or modification and operation.

Table B–7 Impact Assessment Protocol for Noise

Resource	*Required Data*		*Measure of Impact*
	Affected Environment	*Alternative*	
Noise	Identification of sensitive offsite receptors (nearby residences); description of sound levels in the vicinity of the technical area/site	Description of major construction, modification, and operational noise sources; shipment and workforce traffic estimates	Increase in day–night average sound level at sensitive receptors

B.5 Geology and Soils

B.5.1 Description of Affected Resources and Region of Influence

Geologic resources include consolidated and unconsolidated earth materials, including mineral assets such as ore and aggregate materials and fossil fuels such as coal, oil, and natural gas. Geologic conditions include hazards such as earthquakes, faults, volcanoes, landslides, sinkholes, and other conditions leading to land subsidence and unstable soils. Soil resources include the loose surface materials of the earth in which plants grow, usually consisting of mineral particles from disintegrating rock, organic matter, and soluble salts. Certain soils are considered important to farmlands, as designated by the U.S. Department of Agriculture Natural Resources Conservation Service. Important farmlands include prime farmland, unique farmland, and other farmland of statewide or local importance, as defined in 7 CFR 657.5, and may be subject to the Farmland Protection Policy Act (7 U.S.C. 4201 et seq.).

Geology and soils were considered with respect to those attributes that could be affected under the alternatives, as well as those geologic and soil conditions that could affect each alternative. Thus, the ROI for geology and soils includes the CMRR Project site and nearby offsite areas that would be subject to disturbance by facility construction, modification, and operations under the alternatives, as well as those areas beneath existing or new facilities that would remain inaccessible for the life of the facilities. Geologic conditions that could affect the integrity and safety of facilities under the alternatives include large-scale geologic hazards (for example, earthquakes, volcanic activity, landslides, and land subsidence) and local hazards associated with the site-specific attributes of the soil and bedrock beneath site facilities.

B.5.2 Description of Impact Assessment

Facility construction and operations under the alternatives in this *CMRR-NF SEIS* were considered from the perspective of impacts on specific geologic resources and soil attributes. Construction and facility modification activities were the focus of the impacts assessment for geologic and soil resources; hence, one of the key factors considered in the analysis was the land area that would be disturbed during construction and occupied during operations (see **Table B–8**). The assessment included an analysis of the constraints on siting the proposed CMRR-NF over unstable soils that are prone to subsidence, liquefaction, shrink-swell, or erosion.

Table B–8 Impact Assessment Protocol for Geology and Soils

Resource	Required Data: Affected Environment	Required Data: Alternative	Measure of Impact
Geologic hazards	Presence of geologic hazards within the ROI	Location of facility on the site	Potential for damage to facilities
Valuable mineral and energy resources	Presence of any valuable mineral or energy resources within the ROI	Location of facility on the site	Potential to destroy or render resources inaccessible
Important farmland soils	Presence of prime or other important farmland soils within the ROI	Location of facility on the site	Conversion of important farmland soils to nonagricultural use

ROI = region of influence.

The geology and soils impact analysis (see Table B–8) also considered the risks to existing and new facilities from large-scale geologic hazards, such as faulting and earthquakes, lava extrusions and other volcanic activity, landslides, and sinkholes (conditions that tend to affect broad expanses of land). This element of the assessment included collection of site-specific information concerning the potential for impacts on site facilities from local and large-scale geologic conditions.

Probabilistic earthquake ground motions, expressed in terms of peak ground acceleration and spectral (response) acceleration, were determined to provide a comparative assessment of seismic hazards. The U.S. Geological Survey National Seismic Mapping Project uses both parameters. The U.S. Geological Survey's latest National Earthquake Hazards Reduction Program maps are based on spectral acceleration and have been adapted for use in the International Building Code (ICC 2000). These maps depict anticipated peak ground accelerations at 0.2- and 1.0-second spectral acceleration, based on a 2 percent probability of exceedance in 50 years (corresponding to an annual probability of occurrence of about 1 in 2,500). Available site-specific seismic hazard analyses were also reviewed and compared, including the 2007 and 2009 Probabilistic Seismic Hazard Analyses (LANL 2007, 2009), as well as geotechnical reports completed for the CMRR-NF site, with respect to both the shallow and deep excavation options (Kleinfelder 2007a, 2007b, 2010a, 2010b). Potential geohazard impacts, including faulting, seismicity, soil bearing capacity, and slope stability, were evaluated with respect to the information presented in these reports. In addition, recent studies regarding the potential for volcanic activity in the vicinity of LANL (LANL 2010) were summarized and evaluated with respect to the proposed alternatives.

An evaluation also determined whether construction or operation of proposed facilities at a specific site could destroy or preclude the use of valuable mineral or energy resources.

Pursuant to the Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.) and its implementing regulations (7 CFR Part 658), the presence of important farmland, including prime farmland, was also evaluated. This act requires agencies to make Farmland Protection Policy Act evaluations part of their NEPA process, primarily to reduce the conversion of farmland to nonagricultural uses by Federal projects and programs. However, otherwise qualifying farmlands in or already committed to urban development, land acquired for a project on or prior to August 4, 1984, and lands acquired or used by a Federal agency for national defense purposes are exempt from the act's provisions (7 CFR 658.2 and 658.3).

B.6 Surface and Groundwater Quality

B.6.1 Description of Affected Resources and Region of Influence

Water resources are surface water and groundwater suitable for human consumption, traditional and ceremonial uses by Native Americans, aquatic or wildlife propagation, agricultural purposes, irrigation, or industrial/commercial purposes. The ROI used for water resources encompasses those onsite and adjacent surface-water and groundwater systems that could be affected by effluent discharges, and releases (that is, spills) or stormwater runoff associated with facility construction and operational activities under the proposed CMRR Project alternatives and the operation of the CMRR-NF and RLUOB. Water use is addressed in Section B.2.

B.6.2 Description of Impact Assessment

Assessment of the impacts of the proposed CMRR Project alternatives on surface-water and groundwater quality consisted of a comparison of site-generated data and professional estimates regarding effluent discharge with applicable regulatory standards, design parameters, and standards commonly used in the water and wastewater engineering fields, as well as recognized measures of environmental impacts. Certain assumptions were made to facilitate the impacts assessment: (1) all effluent treatment facilities would be approved by the appropriate permitting authority; (2) the effluent treatment facilities would meet effluent limitations imposed by the relevant National Pollutant Discharge Elimination System permits; (3) any stormwater runoff from construction and operation activities would be handled in accordance with the regulations of the appropriate permitting authority; (4) during construction, sediment fencing or other erosion control devices would be used to mitigate the short-term adverse impacts of sedimentation; and (5) as appropriate, stormwater holding ponds would be constructed to reduce the impacts of runoff on surface-water quality.

B.6.2.1 Water Quality

The water quality impacts assessment analyzed how effluent discharges to surface water, as well as discharges reaching groundwater, from facilities under each alternative would directly affect current water quality. The determination of the impacts of the alternatives (summarized in **Table B–9**) consisted of a comparison of the projected effluent quality with relevant regulatory standards and implementing regulations under the Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300 (f) et seq.), state laws, and existing site permit conditions. The impacts analysis evaluated the potential for contaminants to affect receiving waters as a result of spills, stormwater discharges, and other releases under the alternatives. Separate analyses were conducted for surface-water and groundwater impacts.

Table B–9 Impact Assessment Protocol for Water Quality

Resource	*Required Data*		*Measure of Impact*
	Affected Environment	*Facility Design*	
Surface-water quality	Surface water near the facilities in terms of stream classifications and changes in water quality	Expected contaminants and contaminant concentrations in discharges to surface water	Exceedance of relevant surface-water quality criteria or standards established in accordance with the Clean Water Act or state regulations and existing permits
Groundwater quality	Groundwater near the facilities in terms of classification, presence of designated sole-source aquifers, and changes in groundwater quality	Expected contaminants and contaminant concentrations in discharges that could reach groundwater	Contaminant concentrations in groundwater exceeding relevant standards or criteria established in accordance with the Safe Drinking Water Act or state regulations and existing permits

Surface-Water Quality—The evaluation of impacts on surface-water quality focused on the quality and quantity of any effluents (including stormwater) that would be discharged and the quality of the receiving stream resulting from the discharges. The evaluation of effluent quality featured a review of the expected parameters, such as the design average and maximum flows, as well as the effluent parameters reflected in the existing (or expected) National Pollutant Discharge Elimination System permits or applicable state discharge permits. Parameters of concern include total suspended solids, metals, organic and inorganic chemicals, and any other constituents that could affect the local environment. Proposed water quality management practices were reviewed to ensure that any applicable permit limitations and conditions would be met. Factors that currently degrade water quality were also identified.

During facility construction, ground-disturbing activities could affect surface water through increased runoff and sedimentation. Such impacts relate to the amount of land disturbed, type of soil at the site, topography, and weather conditions. These impacts would be minimized by applying standard best management practices for stormwater and erosion control (for example, construction of sediment fences and mulching of disturbed areas).

During operations, surface water could be affected by increased sheet flow runoff from parking lots, buildings, or other cleared areas. Stormwater from these areas could be contaminated with materials deposited by airborne pollutants, automobile exhaust and residues, materials handling releases such as spills, and process effluents. Impacts of stormwater discharges could be highly variable and site-specific, and mitigation would depend on best management practices, holding facility designs, topography, and adjacent land use. Data from existing water quality monitoring sampling results were compared with expected discharges from the facilities to determine the potential impacts on surface water.

Groundwater Quality—Potential groundwater quality impacts associated with any effluent discharges and other contaminant releases during facility construction and operation activities were examined. Available engineering estimates of contaminant concentrations were weighed against applicable Federal and state groundwater quality standards, effluent limitations, and drinking water standards to determine the impacts under each alternative. The consequences of groundwater use and effluent discharge on groundwater conditions were also evaluated.

B.6.2.2 Waterways and Floodplains

The locations of waterways (that is, ponds, lakes, and streams) and the delineated floodplains were identified from maps and other existing documents to assess the potential impacts of facility construction and operations activities, including direct effects on hydrologic characteristics or secondary effects such as sedimentation (see the discussion above on surface-water quality). All activities would be conducted to avoid delineated floodplains and to ensure compliance with Executive Order 11988, *Floodplain Management*.

B.7 Ecological Resources

B.7.1 Description of Affected Resources and Region of Influence

Ecological resources include terrestrial resources, wetlands, aquatic resources, and threatened and endangered species. The ROI for the ecological resource analysis encompassed the site and adjacent areas potentially affected by construction and operation activities associated with the proposed alternatives.

Terrestrial resources are defined as those plant and animal species and communities that are most closely associated with the land, or for aquatic resources, a water environment. Wetlands are defined by the U.S. Army Corps of Engineers and EPA as "… those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3).

Federally endangered species are defined under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) as those in danger of extinction throughout all or a large portion of their range. Threatened species are defined as those species likely to become endangered within the foreseeable future. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service propose species to be added to the lists of federally threatened and federally endangered species. These agencies also maintain a list of "candidate" species for which they have evidence that listing may be warranted, but are currently precluded by the need to list species that are more in need of Endangered Species Act protection. Such candidate species do not receive legal protection under the Endangered Species Act, but should be considered in project planning in case they are listed in the future. The LANL *Threatened and Endangered Species Habitat Management Plan* (LANL 2011b) identifies areas of environmental interest for various federally listed threatened or endangered species for the purpose of managing and protecting these areas because of their significance to biological or other resources. In general, an area of environmental interest consists of a core area that contains important breeding or wintering habitat for a specific species, as well as a buffer area around the core area to protect it from disturbances that would degrade its value. The *Threatened and Endangered Species Habitat Management Plan* defines the types and levels of activities that may be conducted within these areas. The State of New Mexico also designates species as endangered, threatened, or sensitive. The *Sensitive Species Best Management Practices Source Document, Version 1* (LANL 2010), was developed as a site-wide mitigation plan to reduce risks to special status species protected at the state or local level. The categories of special status species addressed in this plan include Federal candidate species and species of concern, as well as New Mexico endangered, threatened, sensitive, and critically imperiled species. Best management practices assist in making recommendations for project activities at LANL and provide mitigation measures for the reduction of risks to sensitive species. When LANL contractor personnel perform surveys, they look for and record the occurrence of these special status species.

B.7.2 Description of Impact Assessment

Impacts on ecological resources may occur as a result of land disturbance, water use, air and water emissions, human activity, and noise associated with CMRR Project implementation (see **Table B–10**). Each of these factors was considered when evaluating the potential impacts of the proposed alternatives. For those activities involving the construction of a new facility or placement of laydown or spoils disposal areas, assessment of direct impacts on ecological resources was based on the acreage of land disturbed by construction. The indirect impacts of factors such as human disturbance and noise were evaluated qualitatively. Indirect impacts on ecological resources due to erosion and sedimentation also were evaluated qualitatively, recognizing that standard erosion and sediment control practices would be followed. Impacts on terrestrial and aquatic ecosystems and wetlands from water use and air and water emissions were evaluated based on the results of the analyses conducted for air quality and water resources. Determination of the impacts on threatened and endangered species was based on factors similar to those noted above for terrestrial resources, wetlands, and aquatic resources, in addition to biological assessments and annual species surveys conducted for this project.

Table B–10 Impact Assessment Protocol for Ecological Resources

Resource	***Required Data***		***Measure of Impact***
	Affected Environment	***Alternative***	
Terrestrial resources	Vegetation and wildlife within the vicinity of CMRR Project activity	CMRR Project activity location and acreage requirements, air and water emissions, and noise	Loss or disturbance of terrestrial habitat, emissions and noise values above levels shown to cause impacts on terrestrial resources
Wetlands	Wetlands within the vicinity of CMRR Project activity	CMRR Project activity location and acreage requirements, air and water emissions, and wastewater discharge quantity and location	Loss or disturbance of wetlands, discharge to wetlands
Aquatic resources	Aquatic resources within the vicinity of CMRR Project activity	CMRR Project activity air and water emissions, water source and quantity, and wastewater discharge location and quantity	Discharges above levels shown to cause impacts on aquatic resources, changes in water withdrawals and discharges
Threatened and endangered species	Threatened and endangered species and areas of environmental interest within the vicinity of CMRR Project activity	CMRR Project activity location and acreage requirements, air and water emissions, noise, water source and quantity, and wastewater discharge location and quantity	Measures similar to those noted above for terrestrial and aquatic resources

CMRR = Chemistry and Metallurgy Research Building Replacement.

B.8 Cultural and Paleontological Resources

B.8.1 Description of Affected Resources and Region of Influence

Cultural resources are indications of human occupation and use of the landscape as defined and protected by a series of Federal laws, regulations, and guidelines. For this *CMRR-NF SEIS*, potential impacts were assessed separately for each of the three general categories of cultural resources: archaeological resources, historic buildings and structures, and traditional cultural properties. Paleontological resources are the physical remains, impressions, or traces of plants or animals from a former geological age, and may be sources of information on ancient environments and the evolutionary development of plants and animals. Although not governed by the same historic preservation laws as cultural resources, they could be affected by the proposed alternatives in much the same manner.

Archaeological resources include any material remains of past human life or activities that are of archaeological interest, including items such as pottery, basketry, bottles, weapons, rock art and carvings, graves, and human skeletal materials. The term also applies to sites that can provide information about past human lifeways. Historic buildings and structures include buildings or other structures constructed after 1942 that have been evaluated for eligibility for the National Register of Historic Places. Traditional cultural properties are defined as a place of special heritage value to contemporary communities (often, but not necessarily, Native American groups) because of their association with the cultural practices or beliefs that are rooted in the histories of those communities and their importance in maintaining the cultural identity of those communities (LANL 2006).

B.8.2 Description of Impact Assessment

The analysis of impacts on cultural and paleontological resources addressed potential direct and indirect impacts at each candidate site from construction and operation (see **Table B–11**). Direct impacts include those resulting from groundbreaking activities associated with new construction and spoils disposal. Indirect impacts include those associated with reduced access to a resource site, as well as impacts associated with increased stormwater runoff, increased traffic, and visitation to sensitive areas.

Table B–11 Impact Assessment Protocol for Cultural and Paleontological Resources

Resource	Required Data: Affected Environment	Required Data: Alternative	Measure of Impact
Archaeological resources	Archaeological resources within the vicinity of CMRR Project activities	CMRR Project activity location and acreage requirement	Potential for loss, isolation, or alteration of the character of archaeological resources; introduction of visual, audible, or atmospheric elements out of character
Historic buildings and structures	Buildings and structures within the vicinity of CMRR Project activities	CMRR Project activity location and acreage requirement	Potential for loss, isolation, or alteration of the character of historic buildings and structures; introduction of visual, audible, or atmospheric elements out of character
Traditional cultural properties	Traditional cultural properties within the vicinity of CMRR Project activities	CMRR Project activity location and acreage requirement	Potential for loss, isolation, or alteration of the character of traditional cultural properties; introduction of visual, audible, or atmospheric elements out of character
Paleontological resources	Paleontological resources within the vicinity of CMRR Project activities	CMRR Project activity location and acreage requirement	Potential for loss, isolation, or alteration of paleontological resources

CMRR = Chemistry and Metallurgy Research Building Replacement.

B.9 Socioeconomics

B.9.1 Description of Affected Resources and Region of Influence

Socioeconomic impacts are defined in terms of changes to the demographic and economic characteristics of a region. The number of jobs created by the proposed alternatives could affect regional employment, income, and expenditures. Job creation is characterized by two types: (1) construction-related jobs, which are transient in nature and short in duration, and, thus, less likely to affect public services; and (2) operation-related jobs, which would last for the duration of the proposed CMRR Project and, thus, could create additional service requirements within the ROI.

The ROI for the socioeconomic environment represents a geographic area where site employees and their families reside, spend their income, and use their benefits, thereby affecting the economic conditions of the region. Site-specific ROIs were identified as those counties in which approximately 90 percent or more of the site's workforce resides. This distribution reflects an existing residential preference for people currently employed at LANL and was used to estimate the distribution of workers associated with facility construction and operation under the proposed alternatives.

B.9.2 Description of Impact Assessment

Data were compiled on the current socioeconomic conditions near LANL, including unemployment rates, economic area industrial and service sector activities, and the civilian labor force. The workforce requirements of each alternative were determined to measure their possible effect on these socioeconomic conditions. Although workforce requirements might be met by employees already working at LANL, it was assumed that new employees would be hired to ensure assessment of the maximum impact. Census statistics were also compiled on the local population and housing demand. U.S. Census Bureau population forecasts for the ROI were combined with overall projected workforce requirements for each of the alternatives being considered to determine the extent of the potential impacts on the local economy, population, and housing demand (see **Table B–12**).

Table B–12 Impact Assessment Protocol for Socioeconomics

Resource	*Required Data*		*Measure of Impact*
	Affected Environment	*Alternative*	
Regional Economic Characteristics			
Workforce requirements	Site workforce projections	Estimated construction and operating staff requirements and timeframes	Workforce requirements added to site workforce projections
Region of influence civilian labor force	Labor force estimates	Estimated construction and operating staff requirements and timeframes	Workforce requirements as a percentage of the civilian labor force
Employment	Latest available employment estimates in counties surrounding the site	Estimated construction and operating staff requirements	Potential change in employment
Demographic Characteristics			
Population and demographics of race, ethnicity, and income	Latest available estimates by county from the U.S. Census Bureau	Estimated effect on population	Potential effects on population
Housing Characteristics			
Housing – home owner and renter vacancy rates	Latest available data from the U.S. Census Bureau	Estimated housing unit requirements	Potential change in housing unit availability

B.10 Environmental Justice

B.10.1 Description of Affected Resources and Region of Influence

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health and environmental effects of their programs, policies, and activities on minority populations and low-income populations.

The CEQ has oversight responsibility for documentation prepared in compliance with NEPA. In December 1997, the CEQ released its guidance for analyzing environmental justice issues under NEPA (CEQ 1997). The CEQ guidance was adopted as the basis for analysis of environmental justice in this *CMRR-NF SEIS*.

Environmental justice requires assessment of the potential for disproportionately high and adverse human health or environmental impacts on minority and low-income populations as a result of implementing any of the alternatives analyzed in this *CMRR-NF SEIS*. In assessing these impacts, the following definitions of minority individuals and populations and low-income population were used:

- *Minority individuals:* These individuals are members of one or more of the following population groups: Hispanic or Latino, American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, or two or more races.
- *Minority populations:* Minority populations are identified where either (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. "Meaningfully greater" is defined here as 20 percentage points.
- *Low-income population:* Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Census Bureau's Current Population Reports, Series P-60 on Income and Poverty. In identifying low-income populations, agencies may

consider as a community either a group of individuals living in geographic proximity to one another, or a set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions of environmental exposure or effect (CEQ 1997). The most recent poverty estimates were supplied from the Census Bureau's Small Area Income and Poverty Estimates (DOC 2010).

Consistent with the impact analysis for the public and occupational health and safety, the affected populations are defined as those minority and low-income populations that are projected to reside within 50 miles (80 kilometers) of Technical Area 3 and Technical Area 55 in the year 2030. To estimate the potential impacts specific to populations in close proximity to LANL, additional radial distances of 5 miles, 10 miles, and 20 miles (8, 16, and 32 kilometers) were analyzed.

Block group data from the 2010 Decennial Census Redistricting Data File (Public Law [P.L.] 94-171), Table PL2, "Hispanic or Latino or not Hispanic or Latino by Race," (DOC 2011) were used as a baseline for projecting populations to the year 2030. Since different population groups in different locations experience different patterns of growth, separate projections were calculated based on race, ethnicity, and location. Data on race and ethnicity were compiled from the 1990, 2000, and 2010 censuses for each county in the ROI, and the trends of the individual subpopulations across this time were used to estimate the likely percentage change each population would experience by the year 2030. Specifically, a separate projection was calculated for the American Indian or Alaska Native population, the Total Hispanic or Latino population, the White non-Hispanic population, and the Other Minority population for each of the counties that lie at least partially within the potentially affected area. The "Other Minority" category consists of all minority populations that are not American Indian or Alaska Native, including the Hispanic or Latino Population. The 2010 populations of each block group were then projected using the percentages calculated for the county in which each block group is located. The projected Total Minority population was calculated by summing the projected American Indian and Alaska Native population with the projected Other Minority population. The projected total population was calculated by summing the projected Total Minority population and the projected White non-Hispanic population.

Block-level data were substituted for block-group-level data for Los Alamos County because the block geography offers the finest spatial resolution for which the Census Bureau compiles data. As adverse impacts on human health are often inversely proportional to proximity, the finer spatial resolution in this area allows a more-accurate representation of the composition of the population within the first several miles of LANL. Population projections for block levels were performed in the same manner as described above for block groups. There would be no advantage to using block-level data for the other counties in the potentially affected area because their location is a sufficient distance away, where the finer spatial resolution would not be necessary.

The 2010 Decennial Census did not contain any sample questions. Sample data that traditionally have been supplied as Summary File-3 have been transferred to the Census Bureau's American Community Survey. Therefore, there are no income data available from the 2010 Census. The American Community Survey offers block group data in the 5-Year Estimates dataset; however, that data set would not be directly comparable to the 1-year data set used to calculate the total population and does not offer finer spatial resolution in close proximity to LANL. To provide a reasonably comparable representation of the potentially affected low-income population, a slightly different approach was adopted. The most up-to-date data from the Census Bureau's Small Area Income and Poverty Estimates (DOC 2010) were compiled for each county in the potentially impacted area. The county-level percentage of the low-income population was then applied to the total population previously projected for each block group that lies within its respective county.

B.10.2 Description of Impact Assessment

Adverse impacts on offsite populations were measured using the methods presented for the various resource areas described in this appendix and analyzed throughout Chapter 4 of this *CMRR-NF SEIS*. Disproportionately high and adverse impacts occur when the risk or rate of exposure to an environmental hazard for a minority or low-income population is significant and exceeds the risk or exposure rate for the general population or another appropriate comparison group. Therefore, estimates of environmental justice impacts were determined using the impacts analysis presented throughout Chapter 4 for the various resource areas to assess the potential for a minority or low-income population to disproportionately bear any adverse impacts.

A special pathways receptor analysis was performed in support of the 2008 *LANL SWEIS* (see Appendix C, Section C.1.4, of the 2008 *LANL SWEIS* [DOE 2008]). Doses associated with normal operations for the alternatives being considered in the *CMRR-NF SEIS* will be compared to the analysis presented in the 2008 *LANL SWEIS*, and an assessment of these impacts on a special pathways receptor will be included in Chapter 4 of this SEIS.

B.11 Human Health

B.11.1 Description of Affected Resources

Public and occupational health and safety analysis examines the potential adverse human health effects of exposure to ionizing radiation and hazardous chemicals from facility operation. In addition, occupational health and safety analysis examines work-related industrial safety issues that determine potential death, illness, or injury resulting from construction and operation activities. Human health effects for transportation of radioactive materials are discussed in Section B.13.

B.11.1.1 Facility Operation

For facility operation, health effects were determined by identifying the types and quantities of additional radioactive materials and toxic chemicals to which individuals may be exposed and estimating the doses or exposures and resulting indicators of health effects (latent cancer fatalities [LCFs]). The impacts of various releases during both normal activities (facility operations and disposition) and postulated accidents on the health of workers and the public residing within an ROI of 50 miles (80 kilometers) were assessed using site-specific factors such as meteorology, population distribution, and distance to nearby receptors.

B.11.1.2 Industrial Safety

Work-related accidents were evaluated in terms of total recordable cases (TRCs), injuries, and deaths resulting from facility construction, operation, and disposition using LANL, other DOE facility, and U.S. Bureau of Labor Statistics historical accidents databases. Two categories of industrial safety impacts, TRCs and fatalities, were analyzed. In addition to fatalities, TRCs include work-related illnesses or injuries that result in loss of consciousness, restriction of work or motion, or transfer to another job, as well as injuries that require medical treatment beyond first aid.

B.11.2 Description of Impact Assessment

B.11.2.1 Facility Operation

Health effects, in terms of incremental doses or exposures and related risks (LCFs), were assessed based on the types and quantities of materials released. Impacts on involved workers were estimated based on operational experience, engineering estimates, and administrative control levels. Models were used to estimate impacts on the health of noninvolved workers and the public resulting from releases during both normal (incident-free) operations and accident conditions. The models used were GENII [Hanford Environmental Radiation Dosimetry Software System (Generation II)] for radioactive air emissions during normal operation (PNNL 2007) and MACCS2 [MELCOR Accident Consequences Code System] for accidental releases of radioactive materials (NRC 1998).

B.11.2.2 Industrial Safety

DOE and contractor TRC and fatality incident rates were obtained from DOE's Computerized Accident/Incident Reporting System database. The database was used to collect and analyze DOE and DOE contractor reports of injuries, illnesses, and other accidents that have occurred during DOE operations. General industry data were obtained from information maintained by the Bureau of Labor Statistics. In addition, LANL site-specific TRCs were obtained from the 2008 *LANL SWEIS* and the SWEIS Yearbooks.

A number of occupational incidence rates are available for use in estimating the industrial safety impacts. The rates vary between 1.6 and 4.0 incidents per 200,000 labor hours (see **Table B–13**). This table provides the three most relevant sources of data for this *CMRR-NF SEIS*: LANL site-specific data, DOE and contractor data, and private industry data maintained by the Bureau of Labor Statistics.

The LANL site-specific injury and illness data are summarized in the 2008 *LANL SWEIS* (DOE 2008) as follows: 2.40 and 1.18 for TRCs and days away, restricted, or transferred (DART) rates, respectively. In addition, the similar information for the activities at DOE facilities is projected to result in 1.6 TRCs and 0.7 DART cases, based on the accident cases from 2004 through 2008 (DOE 2011). These rates are well below industry averages, which in 2006 through 2009 were 4.0 TRCs and 2.0 DART cases as a result of an occupational injury or illness (BLS 2010a).

Table B–13 Total Recordable Cases and Fatality Incident Rates

	Total Recordable Cases (rate [a])	*Fatalities (rate [b])*	*DART (rate [a])*
DOE and contractor	1.6	0.0008	0.7
LANL site-specific	2.4	0.0	1.18
Private industry (BLS)	4.0	0.0038	2.0

BLS = Bureau of Labor Statistics; DART = days away, restricted, or transferred; LANL = Los Alamos National Laboratory.
[a] Average illness and injury cases per 200,000 labor hours from 2004 through 2008 for DOE and 2006 through 2009 for BLS. Days away, restricted, or transferred –DART rate per 200,000 labor hours.
[b] Average fatality rate per 200,000 labor hours from 2004 through 2008 for DOE and 2006 through 2009 for BLS.
Source: BLS 2010a, 2010b; DOE 2011.

B.12 Waste Management and Pollution Prevention

B.12.1 Description of Affected Resources and Region of Influence

Construction of the CMRR-NF is expected to principally generate nonhazardous waste, such as construction and disposition debris. However, because some of the activities associated with construction could occur in the vicinity of potential release sites that require or could potentially require remediation, it is possible that small quantities of other wastes could be generated, including low-level radioactive waste and mixed low-level radioactive waste and/or chemical waste. Operation of the CMRR-NF and RLUOB is expected to generate transuranic and mixed transuranic wastes, low-level radioactive waste, mixed low-level radioactive waste, chemical waste, and nonhazardous waste. Decommissioning, decontamination, and demolition of the CMRR-NF are expected to generate transuranic and mixed transuranic waste, low-level radioactive waste, mixed low-level radioactive waste, chemical waste, and nonhazardous waste.

All of these wastes are defined as follows:

- *Transuranic waste:* Radioactive waste not classified as high-level radioactive waste and containing more than 100 nanocuries per gram of alpha-emitting transuranic isotopes with half-lives greater than 20 years.
- *Mixed transuranic waste:* Transuranic waste that also contains hazardous components regulated under the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.).
- *Low-level radioactive waste:* Waste that contains radioactive material and is not classified as high-level radioactive waste, transuranic waste, or spent nuclear fuel, or the tailings or wastes produced by extraction or concentration of uranium or thorium from ore processed primarily for its source material. Test specimens of fissionable material irradiated for research and development purposes only (not for the production of power or plutonium) may be classified as low-level radioactive waste, provided the transuranic concentration is less than 100 nanocuries per gram of waste.
- *Mixed low-level radioactive waste:* Low-level radioactive waste that also contains hazardous components regulated under the Resource Conservation and Recovery Act.
- *Chemical waste:* Defined as hazardous waste under Resource Conservation and Recovery Act regulations; toxic waste (asbestos and polychlorinated biphenyls) under the Toxic Substances Control Act; and special waste (including industrial waste, infectious waste, and petroleum contaminated soils) under New Mexico's Solid Waste Regulations.
- *Nonhazardous waste:* Discarded material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations or from community activities. This category does not include source, special nuclear, or byproduct material as defined by the Atomic Energy Act (42 U.S.C. 2011 et. seq.).

Waste management activities in support of the proposed alternatives would be contingent on Records of Decision (RODs) issued for the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* (DOE 1997a). In its ROD for transuranic waste (63 FR 3629) and subsequent revisions to this ROD (65 FR 82985, 66 FR 38646, and 67 FR 56989), DOE decided (with one exception) that each DOE site that currently has or will generate transuranic waste would prepare its transuranic waste for disposal and store the waste on site until it could be shipped to the Waste Isolation Pilot Plant in Carlsbad, New Mexico, for disposal. In the ROD for hazardous waste released on August 5, 1998 (63 FR 41810), DOE decided that DOE sites will continue to use offsite facilities for treatment and disposal of major portions of their nonwastewater hazardous waste. Based on the ROD for low-level radioactive waste and mixed low-level radioactive waste issued on February 18, 2000 (65 FR 10061), minimal treatment of low-level radioactive waste will be performed and, to the extent practicable, onsite disposal of low-level radioactive waste will continue. DOE's Hanford Site and Nevada National Security Site (formerly called the Nevada Test Site) will be made available to all DOE sites for disposal of low-level radioactive waste. Mixed low-level radioactive waste analyzed in the *Final Waste Management Programmatic Environmental Impact Statement for Managing Treatment, Storage, and Disposal of Radioactive and Hazardous Waste* will be treated at the Hanford Site, Idaho National Laboratory, the Oak Ridge Reservation, and the Savannah River Site and will be disposed of at the Hanford Site and the Nevada National Security Site. This decision does not preclude use of a commercial capability for treatment and/or disposal of low-level radioactive waste and mixed low-level radioactive waste.

B.12.2 Description of Waste Management Impacts Assessment

Waste management impacts were assessed by comparing projected waste stream volumes generated from the proposed activities with LANL's waste management capacities and generation rates (see **Table B–14**). Only impacts relative to the capacities of waste management facilities are considered here; other environmental impacts of waste management facility operations (for example, human health effects) are evaluated in other sections of this *CMRR-NF SEIS* or in other facility-specific or site-wide NEPA documents. Projected waste generation rates for the proposed activities were compared with the site processing rates and capacities of those storage, treatment, and disposal facilities likely to be involved in managing the additional waste.

Table B–14 Impact Assessment Protocol for Waste Management

Resource	*Required Data* – *Affected Environment*	*Required Data* – *Alternative*	*Measure of Impact*
Waste management capacity - Transuranic waste - Mixed transuranic waste - Low-level radioactive waste - Mixed low-level radioactive waste - Chemical waste - Nonhazardous waste	Site generation rates for each waste type Management capabilities of potentially affected storage, treatment, and disposal facilities for each waste type	Generation rates from facility construction, operations, and DD&D for each waste type	Waste generation rates in comparison to the capabilities of applicable waste management facilities

DD&D = decommissioning, decontamination, and demolition.

B.13 Transportation

B.13.1 Description of Affected Resources and Region of Influence

Transportation of any commodity involves a risk to both transportation crewmembers and members of the public. This risk results directly from transportation-related accidents and indirectly from increased levels of pollution from vehicle emissions, regardless of the cargo. Transportation of certain materials, such as hazardous or radioactive waste, can pose an additional risk due to the unique nature of the materials themselves. Two types of transportation impacts were analyzed: the impacts of incident-free (routine) transportation and the impacts of transportation accidents. The impacts of incident-free transportation and transportation accidents may be either nonradiological or radiological, or both. Incident-free transportation impacts include radiological impacts on the public and the workers due to the radiation field surrounding the transportation package. Nonradiological impacts of potential transportation accidents include traffic accident fatalities.

For incident-free transportation, the ROI for the affected population includes individuals living within 0.5 miles (800 meters) of each side of the road or rail. For transportation accidents, the ROI for the affected population includes individuals residing within 50 miles (80 kilometers) of the accident; the maximally exposed individual would be an individual located 330 feet (100 meters) directly downwind from the accident.

B.13.2 Impact Assessment

The impact of a specific radiological accident is expressed in terms of probabilistic risk, which is defined as the accident probability (that is, accident frequency) multiplied by the accident consequences. The overall risk is obtained by summing the individual risks from all reasonably conceivable accidents. In addition to calculating the radiological risks that would result from all reasonably conceivable accidents during transportation of radioactive waste, the consequences of maximum reasonably foreseeable accidents (events with a probability greater than 1×10^{-7} [1 chance in 10 million] per year) were assessed.

The models used to estimate impacts on the health of the general public resulting from releases during transportation accidents were the Transportation Routing Analysis Geographic Information System (TRAGIS) computer program for route selection and population estimates along the routes, the RADTRAN 6 [Radioactive Material Transportation] risk assessment computer code for incident-free and accident conditions, and the RISKIND [Risks and Consequences of Radioactive Material Transport] computer code for maximum reasonably foreseeable accidents.

The risk from transportation of radioactive materials can be affected by a number of factors. These factors are predominantly categorized as either radiological or nonradiological impacts. Radiological impacts are those associated with the accidental release of radioactive materials and the effects of low levels of radiation emitted during normal, or incident-free, transportation. Nonradiological impacts are those associated with transportation, regardless of the nature of the cargo, such as accidents resulting in death or injury when there is no release of radioactive material.

Shipping packages containing radioactive materials emit low levels of radiation during incident-free transportation. The amount of radiation emitted depends on the kind and amount of material being transported. U.S. Department of Transportation regulations require that shipping packages containing radioactive materials have sufficient radiation shielding to limit the radiation to an acceptable level of 10 millirem per hour at 6.6 feet (2 meters) from the transporter. For incident-free transportation, the potential human health impacts from the radiation field surrounding the transportation packages were estimated for transportation workers and the general population along the route (off traffic, or off-link), people sharing the route (in traffic, or on-link), people at rest areas, and at stops along the route. RADTRAN 6 (SNL 2009) was used to estimate the impacts for transportation workers and populations, as well as the impact on a maximally exposed individual (a person stuck in traffic, a gas station attendee, an inspector, etc.) who could be a worker or a member of the public.

Transportation accidents involving radioactive materials present both nonradiological and radiological risks to workers and the public. Nonradiological impacts of potential transportation accidents include traffic accident fatalities. A release of radioactive material during transportation accidents would occur only when the package carrying the material is subjected to accident forces that exceed the package design standard. The impact of a specific radiological accident is expressed in terms of probabilistic risk, which is defined as the accident probability (that is, accident frequency) multiplied by the accident consequences. The overall risk is obtained by summing the individual risks from all reasonably conceivable accidents. The analysis of accident risks takes into account a spectrum of accident severities ranging from high-probability accidents of low severity (for example, a fender bender) to hypothetical high-severity accidents that have a correspondingly low probability of occurrence. Only as a result of a severe fire and/or a powerful collision, which are of extremely low probability, could a transportation package of the type used to transport radioactive material under the alternatives of this *CMRR-NF SEIS* be damaged to the extent that there could be a release of radioactivity to the environment with significant consequences.

In addition to calculating the radiological risks that would result from all reasonably conceivable accidents during transportation of radioactive wastes, DOE assessed the highest consequences of a maximum reasonably foreseeable accident with a radioactive release frequency greater than 1×10^{-7} (1 chance in 10 million) per year along the route. The latter consequences were determined for atmospheric conditions that would prevail during accidents. The analysis used RISKIND to estimate doses to individuals and populations (Yuan et al. 1995).

Incident-free health impacts are expressed in terms of additional LCFs. Radiological accident health impacts are also expressed as additional LCFs, and nonradiological accident risk as additional immediate (traffic) fatalities. LCFs associated with radiological exposure were estimated by multiplying the occupational (worker) and public dose by 6.0×10^{-4} LCFs per person-rem of exposure (DOE 2003a).

To determine transportation risks, per-shipment risk factors were calculated for the incident-free and accident conditions using RADTRAN 6 (SNL 2009) in conjunction with TRAGIS (Johnson and Michelhaugh 2003) to choose transportation routes in accordance with U.S. Department of Transportation regulations. TRAGIS calculates transportation routes in terms of distances traveled in rural, urban, and suburban areas. It provides population density estimates based on the 2000 Census for each area along the routes to determine population radiological risk factors. For incident-free operations, the affected population includes individuals living within 0.5 miles (800 meters) of each side of the road or rail line. For accident conditions, the affected population includes individuals living within 50 miles (80 kilometers) of the accident, and the maximally exposed individual is assumed to be an individual located 330 feet (100 meters) directly downwind from the accident.

For determining traffic accident fatalities from offsite commercial truck transportation, separate accident rates and accident fatality risks were used for rural, suburban, and urban population zones. These accident and fatality rates were taken from data provided in *State-Level Accident Rates for Surface Freight Transportation: A Reexamination (Accident Rates Report)* (Saricks and Tompkins 1999). The values selected were the mean accident and fatality rates given in the *Accident Rates Report* for “interstate,” “total,” and “primary.” These values were assigned to rural, suburban, and urban population zones, respectively. Accident rates are generically defined as the number of accident involvements (or fatalities) in a given year per unit of travel in that same year. Therefore, the rate is a fractional value, with accident involvement count as the numerator of the fraction and vehicular activity (total travel distance in truck-kilometers) as its denominator. The accident rates for rural, suburban, and urban zones were 3.15, 3.52, and 3.66 per 10 million truck-kilometers, respectively; and the fatality rates were 0.88, 1.49, and 2.32 per 100 million truck-kilometers, respectively.

A review of the truck accidents and fatalities reports by the Federal Carrier Safety Administration indicated that state-level accidents and fatalities were underreported. For the years 1994 through 1996, which were the basis for the analysis in the *Accident Rates Report*, the review found that accidents were underreported by about 39 percent and fatalities were underreported by about 36 percent (UMTRI 2003). Therefore, truck accident and fatality rates in the *Accident Rates Report* were increased by factors of 1.64 and 1.57, respectively, to account for the underreporting.

For determining traffic accident fatalities from local and regional transportation of industrial and hazardous waste, New Mexico state accident and fatality rates, which are also given in the *Accident Rates Report*, were used. The rates used were 1.13 accidents per 10 million truck-kilometers and 1.18 fatalities per 100 million truck-kilometers. For assessment purposes, the total number of expected accidents or fatalities was calculated by multiplying the total shipment distance for a specific waste by the accident or fatality rate.

Radiological consequences were calculated by assigning radionuclide release fractions on the basis of the type of waste, the type of shipping container, and the accident severity category. The release fraction is defined as the fraction of the radioactivity in the container that could be released to the atmosphere in an accident with a given level of severity. Release fractions vary according to waste type and the physical or chemical properties of the radioisotopes. Most solid radionuclides are nonvolatile and are, therefore, relatively nondispersible.

Representative release fractions were developed for each waste and container type on the basis of DOE and U.S. Nuclear Regulatory Commission reports (DOE 1994, 1997b, 2002, 2003b; NRC 1977, 2000). The severity categories and corresponding release fractions provided in these documents cover a range of accidents from no impact (zero speed) to impacts with speeds in excess of 120 miles (193 kilometers) per hour onto an unyielding surface. Traffic accidents that could occur at the site would be of minor impact due to lower local speed, with no release potential.

As stated earlier, offsite route characteristics were determined using TRAGIS, which determines routes for shipment of radioactive materials that conform to U.S. Department of Transportation regulations as specified in 49 CFR Part 397. The TRAGIS-generated population densities along the routes were extrapolated to the year 2030, based on state population growths from the 2000 Census and 2010 Census. The specific route selected determines both the total potentially exposed population and the expected frequency of transportation-related accidents. Route characteristics are expressed in terms of travel distances and population densities in rural, suburban, and urban areas according to the following breakdown:

- Rural population densities range from 0 to 139 persons per square mile (0 to 54 persons per square kilometer).
- Suburban population densities range from 140 to 3,326 persons per square mile (55 to 1,284 persons per square kilometer).
- Urban population densities include all population densities greater than 3,326 persons per square mile (1,284 persons per square kilometer).

Route characteristics were determined for offsite shipments from the LANL site to the following sites:

- Nevada National Security Site in Mercury, Nevada
- Energy*Solutions* Clive Facility in Clive, Utah, as a representative of a commercial disposal site
- Waste Isolation Pilot Plant in Carlsbad, New Mexico

In addition, route characteristics for local routes, that is, LANL to Pojoaque (along Route 502), and Pojoaque to Interstate 25 (south of Santa Fe), were also determined. **Table B–15** summarizes the route characteristics for these sites.

Table B–15 Offsite Transport Truck Route Characteristics

Origin	*Destination*	*Nominal Distance (miles)*	*Distance Traveled in Zones (miles)*			*Population Density in Zone (persons per square mile)*			*Number of Affected Persons* [a]
			Rural	*Suburban*	*Urban*	*Rural*	*Suburban*	*Urban*	
Truck Routes									
LANL	NNSS	777	664	88	25	37.0	1,541.6	10,951.0	427,304
	Commercial [b]	669	583	70	16	30.8	1,790.4	11,743.8	333,612
	WIPP	376	353	22	1.2	22.3	943.5	7,106.7	37,050
Truck Routes (local from Interstate 25 to LANL)									
LANL to Pojoaque		19	17	2.4	0.1	21.8	1,362.3	9,048.9	4,681.0
Pojoaque to Santa Fe [c]		32	27	5	0	71.0	670.3	0	5,169.0

LANL = Los Alamos National Laboratory, NNSS = Nevada National Security Site, WIPP = Waste Isolation Pilot Plant.
[a] The estimated number of persons residing within 0.5 miles along the transportation route.
[b] Energy*Solutions* Clive Facility is a representative commercial disposal facility.
[c] Pass through Santa Fe bypass (New Mexico 599) to Interstate 25.
Note: To convert miles to kilometers multiply by 1.6093; persons per square mile to persons per square kilometer, multiply by 0.3861.

Figure B–1 shows the analyzed truck routes for shipments of radioactive waste materials in this *CMRR-NF SEIS*.

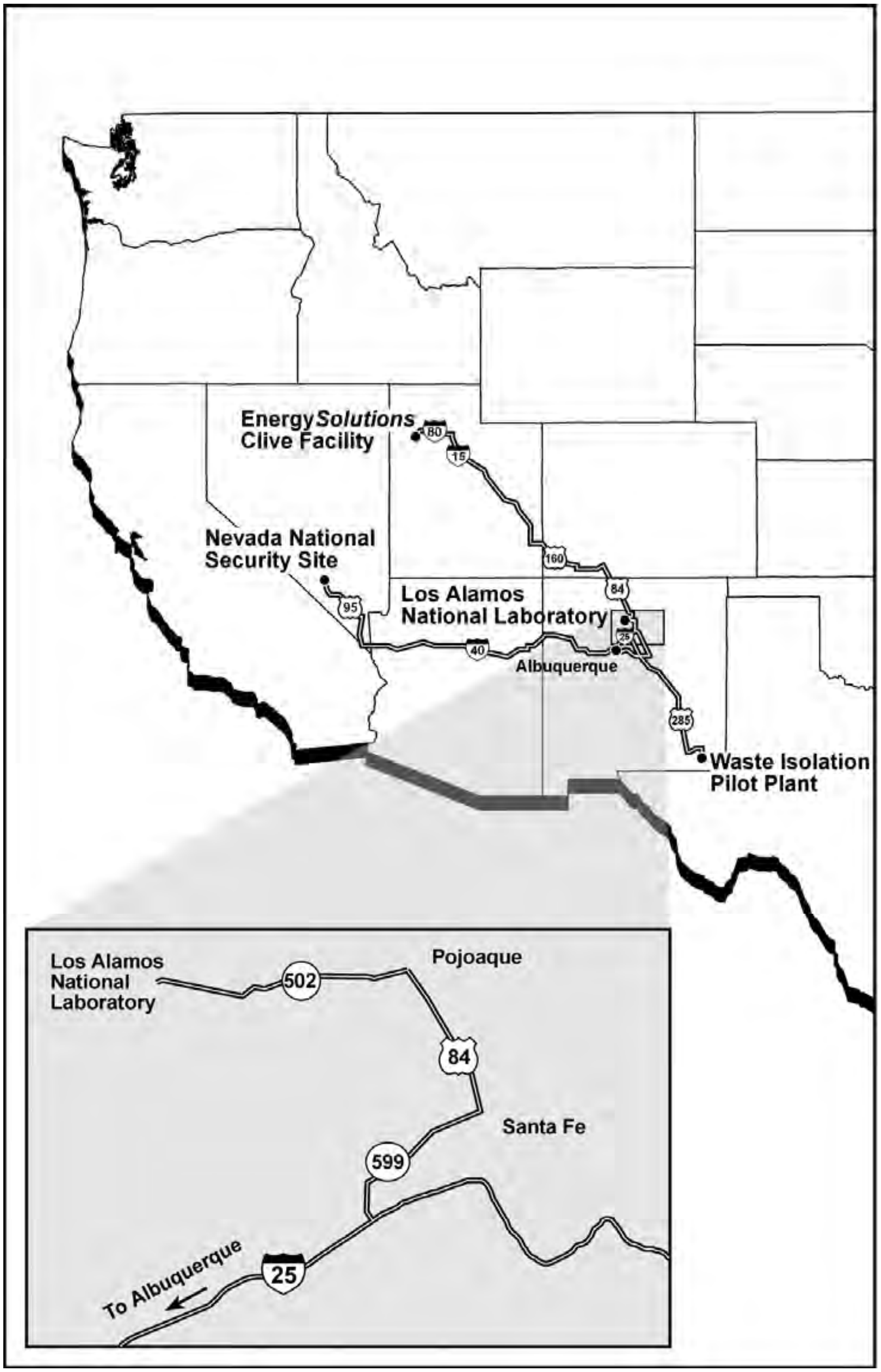

Figure B–1 Analyzed Truck Routes

B.14 Traffic

B.14.1 Description of Affected Resources

This analysis involved a review of engineering estimates or the calculation of engineering estimates of transportation and traffic associated with construction of the CMRR-NF and operation of the CMRR-NF and RLUOB. The impacts of the proposed alternatives were evaluated with respect to internal LANL roadways, access control points, and public roadway network near LANL under both existing and future conditions. Potential shifts in traffic created by the proposed alternatives and corresponding trip generation were estimated. The expected trips were then assigned to road segments. Based on these assumptions, net changes in vehicle volumes were developed and analyzed for each alternative.

The traffic generated by the proposed CMRR-NF construction and operation of the CMRR-NF and RLUOB was estimated, and the impact of that traffic was evaluated for the affected roadway segments. That traffic was added to the expected traffic volume on the respective roadways and the level of service (LOS) was determined for each segment. The LOSs determined for the proposed alternatives were then compared to determine the impacts on the roadways in question.

Increases in peak hour traffic of fewer than 100 vehicles per hour are generally considered not to be significant by transportation engineers in determining LOSs. The operation of the CMRR-NF and RLUOB is not anticipated to generate more trips than the existing facilities. The impacts of the construction of the proposed CMRR-NF are addressed separately. In addition to the impacts on traffic volume, the possible impacts on the existing roadways of the construction traffic are evaluated.

B.14.2 Methodology Used to Analyze Traffic Volume Impacts

Analysis of traffic volume impacts focused on assessing the ability of the existing roadway system to accommodate increased utilization of particular road segments. The number of trips that would be generated by the proposed alternatives was estimated. The level of traffic on each roadway analyzed was estimated using publicly available information from the New Mexico Department of Transportation (Valencia 2010) and from prior traffic studies on LANL. The level of traffic was escalated by an assumed rate of growth on public roadways. Traffic impacts were evaluated for the year construction is expected to begin and for the year construction is expected to be completed. The LOSs for selected roadways were then determined using the methods and tables contained in the 2000 *Highway Capacity Manual* (National Research Council 2000). Construction was considered to occur between 2012 and 2015 under the No Action Alternative, between 2012 and 2020 under the Modified CMRR-NF Alternative Deep Excavation Option, and between 2012 and 2020 under the Modified CMRR-NF Alternative Shallow Excavation Option.

Traffic volumes are typically based on the number of expected vehicles in a 1-hour period, also called the peak hourly volume, which is defined by traffic engineers as the 30th highest traffic volume expected in any 60-minute period of a calendar year. To understand the function of the roadway under its peak traffic loading, the LOS is determined based on the peak hourly volume.

The number of peak-hour trips expected to be gained or lost due to CMRR-NF construction was estimated using methods contained in *Trip Generation, 7th Edition* (ITE 2003). For each alternative, the expected traffic was added to the traffic volumes forecast for the affected roadway for the year when construction begins and the year when construction is anticipated to end. The expected change in LOS under each alternative was then determined using the 2000 *Highway Capacity Manual* (National Research Council 2000).

According to the traffic-count information provided by the New Mexico Department of Transportation, the roadways surrounding LANL have experienced an average annual growth in total vehicles/trips of between 0 percent and 0.8 percent (Valencia 2010). This analysis assumed the transportation growth rates for the road segments analyzed would continue at the same rates as those of past years.

Traffic on roadways is measured by their LOS, as generally defined below.

- **LOS A** describes the highest quality of traffic service, with drivers able to travel at their desired speed. Drivers find driving on LOS A roadways to be stress-free.
- **LOS B** describes a condition where drivers have some restrictions on their speed of travel. Most drivers find LOS B roadways slightly stressful.
- **LOS C** describes a condition of stable traffic flow, but with significant restrictions on drivers' ability to travel at desired speeds. Most drivers find LOS C roadways somewhat stressful.
- **LOS D** describes unstable traffic flow. Drivers are restricted into slow-moving platoons, and disruptions in the traffic flow can cause significant congestion. There is little or no opportunity to pass slower-moving traffic. Most drivers find LOS D roadways stressful.
- **LOS E** represents the highest volume of traffic that can move on the roadway without a complete shutdown. Most drivers find LOS E roadways very stressful.
- **LOS F** represents heavily congested flow with traffic demand exceeding capacity. Traffic flows are slow and discontinuous. Most drivers find LOS F roadways extremely stressful.

Traffic volumes on existing roadways are expected to increase over time and the LOSs of those roadways are expected to decrease unless roadway improvements are made. As LOSs deteriorate, roadway improvements become more likely. Significant impacts on traffic LOSs are generally considered to occur when the LOSs on the studied roadway segments fall below the acceptable LOSs for those roadways. Each roadway segment has an acceptable LOS determined by local authorities responsible for that segment. Generally, in urban areas, an acceptable LOS is LOS D, or sometimes LOS E. In rural areas, an acceptable LOS is LOS C or better. It is significant if the LOS falls below the expected LOS at an earlier time. For example, it would be significant if a roadway segment were projected to reach LOS E in 2020 and impacts under the proposed alternatives were to cause the LOS to fall to LOS E in 2015.

LOS changes that are not considered significant typically include any LOS changes caused by changes in peak-hour trips of less than 100 vehicles per hour. The LOS designations are a continuum based on motorists perceptions, and it is unlikely that changes of less than 100 vehicles per hour would greatly inconvenience motorists even if that change results in a change in the LOS letter assignment. It is also not considered a significant change if the LOS changes from one acceptable LOS to another acceptable LOS. For example, a change from LOS A to LOS B would not be considered a significant change. Any changes that are not significant would be considered acceptable changes.

B.14.3 Vehicle Access Portal

A Vehicle Access Portal (VAP) is a facility entrance/exit where the identities of vehicle occupants are verified prior to their being allowed to proceed inside or outside the bounds of the secured facility. Typical security checks include inspections of vehicle decals, driver and passenger identifications, and the contents of vehicles. The capacity of a VAP is limited and depends on the type of security check being used. If the volume of traffic attempting to utilize a VAP exceeds the capacity of the VAP to process that traffic, roadway backups will occur. Traffic impacts on VAPs were determined by estimating the number of trips generated, using the methodology found in the Institute of Transportation Engineers *Trip Generation* 2003 report (similar to the methodology used to analyze impacts on roadways). The abilities of VAPs to function adequately at the levels of traffic estimated were evaluated using the methods contained in *Traffic and Safety Engineering for Better Entry Control Facilities* (SDDCTEA 2006).

B.14.4 Structural Impacts on Internal Roadways at Los Alamos National Laboratory

Some of the material deliveries would need to pass over internal LANL roadways. The existing roadways at LANL are constructed using asphaltic concrete. These roadways were originally constructed as part of an industrial facility, so it is expected that they were constructed for some level of truck traffic. However, the trucks in common usage today are much heavier than those anticipated for use in the 1950s and 1960s, the timeframe of the LANL roadways' construction.

Analysis using methods contained in the *American Association of State Highway and Transportation Officials Guide for Design of Pavement Structures* (AASHTO 1993), and assuming "fair" soil conditions, indicates that an asphaltic concrete pavement structure would need to have a minimum pavement structure of a 2-inch (5-centimeter) asphaltic concrete surface course, a 4-inch (10-centimeter) asphaltic concrete base course, and a 6-inch (15-centimeter) aggregate base over a prepared subgrade to support the expected truck traffic without significant damage to the roadways. If the LANL roadways are of a lesser thickness, or are already significantly deteriorated, then the expected construction traffic is expected to affect the roadways. Any public roadways utilized by construction traffic are expected to be substantially thicker than the minimum described above and structural impacts are not anticipated.

B.15 Cumulative Impacts

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7). The cumulative impact analysis for this *CMRR-NF SEIS* involved combining the impacts of the alternatives with the impacts of other past, present, and reasonably foreseeable activities in the ROI. The key resources are identified in **Table B–16**.

Table B–16 Key Resources and Associated Regions of Influence

Resources	*Region of Influence*
Infrastructure use	The site and Los Alamos County
Air quality	The site, nearby offsite areas within local air quality control regions where significant air quality impacts may occur, and Class I areas within 62 miles
Transportation	Transportation corridors to offsite disposal locations and population centers along the transportation routes
Radiological	Persons residing within 50 miles of Los Alamos National Laboratory
Waste management	The site

Note: To convert miles to kilometers, multiply by 1.6093.

In general, the cumulative impacts were determined by collectively considering the baseline affected environment (conditions attributable to present actions by DOE and other public and private entities), the proposed alternatives, and other future actions. Quantifiable information was incorporated to the degree it was available. Factors were weighed against the appropriate impact indicators (site capacity or number of fatalities) to determine the potential for impacts (see **Table B–17**).

Table B–17 Selected Indicators of Cumulative Impact

Category	***Indicator***
Infrastructure use	- Electricity use compared with site and county capacity - Water use compared with site and county capacity - Natural gas use compared with site and county capacity
Air quality	Criteria pollutant concentrations and comparisons with standards or guidelines
Transportation	Accidents
Radiological	Radiological emissions and exposure compared with standards or guidelines
Waste management	Waste generated compared to previous site estimates

The analysis focused on the potential for cumulative impacts at LANL from DOE actions under detailed consideration at the time of this *CMRR-NF SEIS*, as well as cumulative impacts associated with transportation. The 2008 *LANL SWEIS* was used to establish the baseline conditions against which the incremental cumulative impacts were assessed and later information was collected on future actions where available.

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APPENDIX C
EVALUATION OF HUMAN HEALTH IMPACTS FROM FACILITY ACCIDENTS

APPENDIX C
EVALUATION OF HUMAN HEALTH IMPACTS FROM FACILITY ACCIDENTS

C.1 Introduction

Accident analyses were performed to estimate the impacts on workers and the public from reasonably foreseeable accidents for the alternatives in this *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)*. The analyses were performed in accordance with U.S. Department of Energy (DOE) National Environmental Policy Act (NEPA) guidelines, including the process followed for the selection of accidents, definition of accident scenarios, and estimation of potential impacts. The sections that follow describe the methodology and assumptions, accident selection process, selected accident scenarios, and consequences and risks of the accidents evaluated.

C.2 Overview of Methodology and Basic Assumptions

The radiological impacts from accidental releases from the facilities used to perform chemistry and metallurgy research (CMR) operations were calculated using the MACCS [MELCOR Accident Consequences Code System] computer code, Version 1.13.1 (MACCS2). A detailed description of the MACCS model is provided in NUREG/CR-6613 (NRC 1990). The enhancements incorporated in MACCS2 are described in the *MACCS2 Users Guide* (Chanin and Young 1998). This section presents the MACCS2 data specific to the accident analyses. Additional information on the MACCS2 code is provided in Section C.10.

As implemented, the MACCS2 model evaluates doses due to inhalation of airborne material, as well as external exposure to the passing plume. This represents the major portion of the dose that an individual would receive because of a facility accident. The longer-term effects of radioactive material deposited on the ground after a postulated accident, including the resuspension and subsequent inhalation of radioactive material and the ingestion of contaminated crops, were not modeled for this *CMRR-NF SEIS*. These pathways have been studied and found to contribute less significantly to the radiation dose than the inhalation of radioactive material in the passing plume; they are also controllable through interdiction. Instead, the deposition velocity of the radioactive material was set to zero, so that material that might otherwise be deposited on surfaces remained airborne and available for inhalation. Thus, the method used in this *CMRR-NF SEIS* is conservative compared with dose results that would be obtained if deposition and resuspension were taken into account.

The impacts were assessed for the offsite populations surrounding the proposed site of the Chemistry and Metallurgy Research Building Replacement (CMRR) Nuclear Facility (CMRR-NF) and the existing CMR Building, as well as a maximally exposed individual (MEI), and noninvolved worker at each of these locations. The impacts on involved workers, those working in the facility where the accident occurs, were addressed qualitatively because no adequate method exists for calculating meaningful consequences at or near the location where the accident could occur. The impacts on involved workers are very dependent on the type of accident, the severity of the accident, the location of workers, and protective actions taken. Workers in the same room as a severe accident could suffer fatalities whereas workers in adjacent rooms or elsewhere in the building may suffer no or only minor injury. Involved workers are also fully trained in emergency procedures, including evacuation and personal protective actions in the event of an accident.

The offsite population is defined as the general public residing within 50 miles (80 kilometers) of each site. The population distribution for each proposed site is based on U.S. Department of Commerce (Census Bureau) population data at the block or block group level (DOC 2000, 2010). These data were fitted to a polar coordinate grid with 16 angular sectors aligned with the 16 compass directions, with radial intervals that extend outward to 50 miles (80 kilometers). The population data were extrapolated based on the population growth over the 1990–2010 period to estimate the projected population for the year 2030. The offsite population within 50 miles (80 kilometers) was estimated to be about 511,000 persons for Technical Area 55 (TA-55) (for the No Action Alternative and Modified CMRR-NF Alternative) and about 502,000 persons for TA-3 (for the Continued Use of CMR Building Alternative). (The 2030 population estimates were updated in this *Final CMRR-NF SEIS* to reflect 2010 census data.) For this analysis, no credit was taken for emergency response evacuations and other mitigative actions, such as temporary relocation of the public.

The MEI is defined as a hypothetical individual member of the public who would receive the maximum dose from an accident. This individual is usually assumed to be located at a site boundary. The MEI location was determined for each alternative. The MEI location can vary at Los Alamos National Laboratory (LANL) based on accident conditions. For this analysis, the MEI was located 0.75 miles (1.2 kilometers) north-northeast of TA-55, and 0.42 miles (0.7 kilometers) north-northeast of TA-3.

A noninvolved worker is defined as an onsite worker who is not directly involved in facility activities where the accident occurs. The noninvolved worker was conservatively assumed to be exposed to the full release, without any protection, located at the technical area boundaries, a distance of about 300 yards (about 280 meters) for TA-3, and about 240 yards (about 220 meters) for TA-55. Workers at nearby facilities within the same technical area as the CMRR-NF or CMR Building could also be affected by releases from an accident. The impacts on these workers would be higher than those to a noninvolved worker if radioactive material was released and dispersed at ground level; conversely, if the radioactive material was released from an elevation or was lifted by the heat of a fire, the impact on these workers likely would be less than the impact to the noninvolved worker at the technical area boundary. All workers would respond to a site emergency alarm in accordance with their training and evacuate to a designated shelter area, reducing their exposure potential. For purposes of the analyses, however, no credit was taken for any reduced impacts afforded by evacuation.

Doses to the offsite population, the MEI, and a noninvolved worker were calculated based on site-specific meteorological conditions. Site-specific meteorology is described by 1 year of hourly windspeed, atmospheric stability, and rainfall recorded at the site. The MACCS2 calculations produce distributions based on the meteorological conditions. For these analyses, the results presented are based on mean meteorological conditions. The mean produces more-realistic consequences than a 95th percentile condition, which is sometimes used in safety analysis reports. The 95th percentile condition represents low-probability meteorological conditions that are not exceeded more than 5 percent of the time.

The probability coefficient for determining the likelihood of a latent cancer fatality (LCF) for low doses or dose rates is 0.0006 fatal cancers per person-rem for populations, or 0.0006 fatal cancers per rem when applied to individual workers and the MEI (DOE 2003a). For high doses or dose rates, the probability coefficient is 0.0012 fatal cancers per rem applied to any individual. The higher-probability coefficients apply where individual doses are above 20 rem (NCRP 1993).

The preceding discussion focuses on radiological accidents. Chemical accident scenarios were not evaluated, since inventories of hazardous chemicals to support CMR operations do not exceed the Threshold Planning Quantities as stipulated on the Extremely Hazardous Substances List provided in Section 3.02 of the Emergency Planning and Community Right-to-Know Act (EPA 1998) (refer also to 40 CFR 68.130).

C.3 Accident Scenario Selection Process

In accordance with DOE NEPA guidelines, this *CMRR-NF SEIS* considers a representative set of accidents that includes various types, such as fire, explosion, mechanical impact, criticality, spill, human error, natural phenomena, and external events. DOE's Office of NEPA Policy and Compliance, in the *Recommendations for Analyzing Accidents under the National Environmental Policy Act* (DOE 2002a), provides guidance for preparing accident analyses in environmental impact statements. The guidance supplements *Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements, Second Edition* (DOE 2004).

The accident scenario selection was based on evaluation of accidents reported in the hazard analysis documentation provided for the CMR Building (LANL 2011a) and the CMRR-NF (LANL 2011b). The selection and evaluation of accidents was based on a process described in the *DOE Standard: Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses (Nonreactor SAR Preparation Guide)* (DOE 2006a). The accident selection process for this *CMRR-NF SEIS* is described in Sections C.3.1 and C.3.2 for Steps 1 and 2, respectively. For additional details on this process, see the documents referenced above.

C.3.1 Hazard Identification – Step 1

Hazard identification, or hazards analysis, is the process of identifying the material, system, process, and plant characteristics that can potentially endanger the health and safety of workers and the public and analyzing the potential human health and safety consequences of accidents associated with the identified hazards. The hazards analysis examines the complete spectrum of accidents that could expose members of the public, onsite workers, facility workers, and the environment to hazardous materials. Hazards that could be present in the CMRR Facility were identified by reviewing data in source documents, assessing their applicability to the CMR Building and the proposed CMRR-NF, and identifying the potential hazards posed by the CMR activities that would be carried out in these facilities.

C.3.2 Accidents Selected for this Evaluation – Step 2

Major hazards were reviewed using a hazards analysis process based on guidance provided by the *Nonreactor SAR Preparation Guide* (DOE 2006a). The process ranks the risk of each hazard based on estimated frequency of occurrence and potential consequences to screen out low-risk hazards. Based on this process, a spectrum of accidents was selected. The selection process included, but was not limited to: (1) consideration of the impacts on the public and workers of high-frequency/low-consequence accidents and low-frequency/high-consequence accidents; (2) selection of the highest-impact accident in each accident category to envelope the impacts of all potential accidents; and (3) consideration of reasonably foreseeable accidents (consistent with item 1, this *CMRR-NF SEIS* includes evaluation of low-frequency/high-consequence accidents that are considered beyond design-basis accidents). In addition, hazards and accident analyses for the alternatives were reviewed to determine the potential for accidents initiated by external events (for example, aircraft crash, and explosions in collocated facilities) and natural phenomena (for example, external flooding, earthquake, extreme winds, and missiles). Accident scenarios initiated by human error were also evaluated.

The results of the Step 2 selection process are presented below.

Fire—Fires that occur in the facility could lead to the release of radioactive materials with potential impacts on workers and the public. Initiating events may include internal process and human error events; natural phenomena, such as an earthquake; or external events, such as an airplane crash into the facility. Combustibles near an ignition source could be ignited in a laboratory room containing the largest amounts of radioactive material. The fire may be confined to the laboratory room, propagate uncontrolled and without suppression to adjacent laboratory areas, or lead to a facility-wide fire. A fire or deflagration in a high-efficiency particulate air (HEPA) filter could also occur due to an exothermic reaction involving reactive salts and other materials. External fires (that is wildfires) are also considered. Though unlikely, a wildfire could directly affect the facility in which case the scenario would be similar to fires initiated by other means as discussed above. A wildfire could also affect the infrastructure in the vicinity of LANL. Wildfires are discussed in more detail in Section C.4.1.

Explosion—Explosions that could occur in the facility could lead to the release of radioactive materials with potential impacts on workers and the public. Initiating events may include internal process and human error events; natural phenomena, such as an earthquake; or external events, such as an explosive gas transportation accident. Explosions could disperse nuclear material as well as initiate fires that could propagate throughout the facility. An explosion of methane gas followed by a fire in a laboratory area could potentially propagate to other laboratory areas and affect the entire facility.

Spills—Spills of radioactive and/or chemical materials could be initiated by failure of process equipment and/or human error, natural phenomena, or external events. Radioactive and chemical material spills typically involve laboratory room quantities of materials that are relatively small compared to releases caused by fires and explosions. Laboratory room spills could affect members of the public, but may be a more serious risk to the laboratory room workers. Larger spills involving vault-size quantities are also possible.

Criticality—The potential for a criticality exists whenever there is a sufficient quantity of nuclear material in an unsafe configuration. Although a criticality could affect the public, its effects are primarily associated with workers near the accident.

Operations at the CMR Building and the proposed CMRR-NF would mostly involve fissile material handling below the minimum critical mass. Only a few operations would involve fissile materials in excess of critical masses. These operations have been reviewed by NNSA and the LANL contractor and it was concluded that existing procedures, limits, and controls would make a criticality accident an incredible event (an event with an annual likelihood of occurrence less than 1 in 1 million). Even for a beyond-design-basis accident, an extreme earthquake-driven accident with sufficient reflector material (water), whereby the entire vault inventory ends up on the floor, NNSA's evaluations concluded that the size and volume of the vault would maintain subcriticality. If a criticality accident were assumed to occur, its consequences and risks to the public and workers would be small in comparison to the consequences and risks from the low-frequency accidents analyzed in this *CMRR-NF SEIS*. Since a criticality accident was found to be a low-consequence and low-frequency event, it was not included among the accidents analyzed in detail.

Natural Phenomena—The potential accidents associated with natural phenomena include earthquakes, high winds, flooding, and similar naturally occurring events. For *CMRR-NF SEIS* alternatives, a severe earthquake could lead to the release of radioactive materials and exposure of workers and the public. A severe earthquake could cause the collapse of facility structures, falling debris, and failure of gloveboxes and nuclear materials storage facilities. An earthquake could also initiate a fire that propagates throughout the facility and results in an unfiltered release of radioactive material to the environment. In addition to the potential exposure of workers and the public to radioactive and chemical materials, an accident could also cause human injuries and fatalities from the force of the event, such as falling debris during an earthquake or the thermal effects of a fire.

Chemical—The analytical and research nature of CMR operations requires the use, handling, and storage of a large variety of chemicals, but in relatively small quantities (for example, liter or gram quantities). As such, there is an extensive list of chemicals that may be present for programmatic purposes, with quantities of regulated chemicals far below the threshold quantities set by the U.S. Environmental Protection Agency (40 CFR 68.130). The hazards associated with these chemicals are well understood and, because of the small quantities, can be managed using standard hazardous material and/or chemical handling programs. They pose minimal potential hazards to public health and the environment in an accident condition. Activity level probabilistic hazards analyses would be performed to ensure that no onsite inventory exceeds the screening criterion of DOE-STD-1189, Appendix B (DOE 2008a). Accidents involving small laboratory quantities of chemicals would primarily present a risk to the involved worker in the immediate vicinity of the accident. There would be no bulk quantities of chemicals stored at the CMR Building or the proposed CMRR-NF.

Airplane Crash—The potential release of radioactive materials from an unintentional airplane crash into a building was considered in this *CMRR-NF SEIS*. In accordance with DOE Standard 3014, an aircraft impact analysis was performed for the CMRR-NF (LANL 2011c). This analysis concluded that the largest aircraft that would exceed the DOE Standard 3014 evaluation guideline of 10^{-6} (1 chance in 1 million) per year for an aircraft crash into the CMRR-NF was a general aviation aircraft (U.S. registered aircraft that are not conducting air carrier revenue operations) (DOE 2006b, LANL 2011c). Large aircraft (commercial air carrier or large military aircraft) were determined to have a probability of accidentally crashing into the CMRR-NF of less than 10^{-7} (1 chance in 10 million) per year and were not considered further in this *CMRR-NF SEIS*. The impacts of a general aviation aircraft crash into the facility have been evaluated and accounted for in the design of the Modified CMRR-NF and are bounded by other accidents addressed in this *CMRR-NF SEIS*.

C.4 Accident Scenario Descriptions and Source Terms

This section describes the accident scenarios and corresponding source terms developed for the *CMRR-NF SEIS* alternatives. The spectrum of accidents described in this section was used to determine, for workers and the public, the consequences and associated risks of each alternative. Assumptions were made when further information was required to clarify the accident condition, update parameters, or facilitate the evaluation process; these are referenced in each accident description.

The source term is the amount of respirable radioactive material released to the air, in terms of curies or grams, assuming the occurrence of a postulated accident. The airborne source term is typically estimated by the following equation:

$$\text{Source term (ST)} = \text{MAR} \times \text{DR} \times \text{ARF} \times \text{RF} \times \text{LPF}$$

where:

MAR	=	material at risk
DR	=	damage ratio
ARF	=	airborne release fraction
RF	=	respirable fraction
LPF	=	leak path factor

The material at risk is the amount of radionuclides (in curies of activity or grams of each radionuclide) available for release when acted upon by a given physical stress or accident. The material at risk is specific to a given process in the facility of interest. It is not necessarily the total quantity of material present, but is that amount of material in the scenario of interest postulated to be available for release.

The damage ratio is the fraction of material exposed to the effects of the energy, force, or stress generated by the postulated event. For the accident scenarios discussed in this analysis, the value of the damage ratio varies from 0.1 to 1.0.

The airborne release fraction is the fraction of material that becomes airborne due to the accident. In this analysis, airborne release fractions were obtained from the hazard analysis information for the CMR Building and CMRR-NF (LANL 2011a, 2011b), or the *DOE Handbook* on airborne release fractions (DOE 1994).

The respirable fraction is the fraction of the particulate matter with an aerodynamic diameter of 10 microns (0.0004 inches) or less that could be retained in the respiratory system following inhalation. The respirable fraction values are also taken from the hazard analysis information for the CMR Building and CMRR-NF (LANL 2011a, 2011b), or the *DOE Handbook* on airborne release fractions (DOE 1994).

The leak path factor accounts for the action of removal mechanisms, for example, containment systems, filtration, and deposition, to reduce the amount of airborne radioactivity ultimately released to occupied spaces in the facility or the environment. Leak path factors are assigned in accident scenarios involving a major failure of confinement barriers; these leak path factors are 1.0 (no reduction) or 0.1 for a more realistic evaluation of the transport of material out of storage containers and enclosures, such as gloveboxes, through the building equipment, damaged structures, and rubble to the environment. Leak path factors were assumed based on information included in the hazard analysis information for the CMR Building and the CMRR-NF (LANL 2011a, 2011b) and site-specific evaluations.

Since the isotopic composition and shape of some of the nuclear materials are classified, the material inventory has been converted to equivalent amounts of plutonium-239. The conversion was on a constant-consequence basis, so that the consequences calculated in the accident analyses are equivalent to what they would be if actual material inventories were used. The following sections describe the selected accident scenarios and corresponding source terms for the alternatives.

C.4.1 Accident Scenario Selection for This *CMRR-NF SEIS*

The safety documents for the CMR Building, the proposed CMRR-NF, and the other plutonium facilities at LANL start with hazard evaluations that systematically consider a wide range of potential hazards and identify the controls needed to prevent the incident from occurring or to mitigate the potential consequences should an incident occur. Incidents that could result in higher consequences or accident risks are further evaluated to identify the potential radiological consequences if the accident were to occur and identify controls to reduce the likelihood of the accident occurring and to reduce the potential radiological consequences to the extent practicable.

For facilities like the CMR Building, the proposed CMRR-NF, and the other plutonium facilities at LANL, the general safety strategy requires the following:

- plutonium materials be contained at all times with multiple layers of confinement that prevent the materials from reaching the environment
- energy sources that are large enough to disperse the plutonium and threaten confinement be minimized

This basic strategy means that operational accidents, including spills, impacts, fires, and operator errors never have sufficient energy available to threaten the multiple levels of confinement that are always present within a plutonium facility. For plutonium facilities, such as the proposed CMRR-NF, the final layer of confinement is the reinforced concrete structure and the system of barriers and multiple stages of HEPA filters that limit the amount of material that could be released to the environment even in the worst realistic internal events.

The operational events that present the greatest threats to confinement in facilities like the proposed CMRR-NF are large-scale internal fires, which, if they did occur, could present heat and smoke loads that threaten the building's HEPA filter systems. For modern plutonium facilities, the safety strategy is to prevent large internal fires by limiting the energy sources, such as flammable gases, and other combustible materials to the point that a wide-scale, propagating fire is not physically possible, and to defeat smaller internal fires with fire suppression systems.

Modern plutonium operations, such as the proposed CMRR-NF, are designed and operated such that the estimated frequency of any large fire within the facility would fall into the "extremely unlikely" category and would require multiple violations of safety procedures to introduce sufficient flammable materials into the facility to support such a fire. Any postulated large-scale fire in a modern plutonium facility would be categorized as a "beyond-design-basis" event and is not expected to occur during the life of the facility.

Earthquakes present the greatest design challenges for these facilities due to the requirement to prevent substantial releases of radioactive materials to the environment during and after a severe earthquake. For safety analysis purposes, it is often assumed that after a very severe earthquake, one that exceeds the design loading levels of the facility equipment, enclosures, and building structure and confinement, a substantial release of radioactive material within the facility occurs. This allows designers and safety analysts to determine what additional design features may be needed to ensure greater containment and confinement of the radioactive materials at risk even in an earthquake so severe that major damage to a new, reinforced concrete facility could occur. In these safety analyses, it is often assumed that major safety systems are not in place such that estimates of the mitigation effectiveness of each of the safety systems (or controls) can be estimated.

The accident scenarios selected for inclusion in this *CMRR-NF SEIS* are the ones that would present the greatest risk of radiological exposure to members of the public. Because of the reinforced nature of these plutonium facilities, these scenarios all require substantial additions of energy, either from a widespread internal fire, or through a severe natural disaster such as an earthquake so severe that building safety systems exceed their design limits and confinement of the plutonium materials within the building is lost. Thus for any new plutonium facility such as the proposed CMRR-NF, all of the accidents presented in this *CMRR-NF SEIS* with frequencies of 1 in 10,000 per year or less would clearly fall into the "beyond-design-basis" category and have probabilities that would fall in the "extremely unlikely" or lower category. None of these postulated events is expected to occur during the life of the facility.

Volcanism—A preliminary evaluation of volcanic hazards at LANL was reported in the *Preliminary LANL Volcanic Hazard Evaluation* (Keating et al. 2010) (see Chapter 3, Section 3.5.5). Based on an evaluation of information on the volcanic history of the region surrounding LANL, the report described the potential volcanic hazards to LANL from future eruptions in the region. The preliminary calculation of the recurrence rate for silicic eruptions is about 1×10^{-5} per year in the Valles caldera study region. Similarly, the preliminary calculation of the recurrence rate for basaltic eruptions along the Rio Grande rift is 2×10^{-5} per year. These recurrence rates were calculated by dividing the number of eruptive events by the active eruption period. The estimates of past recurrences rate are not the same as the probability of future eruptions that might affect a given facility. Although it cannot be ruled out, volcanism in the vicinity of TA-55 within the lifetime of the CMRR-NF (50 to 100 years) is unlikely (LANL 2011d).

DOE Standard: Natural Phenomena Hazards Site Characterization (DOE-STD-1022-2002) identifies the potential hazards associated volcanoes to include lava flows, ballistic projections, ash falls, pyroclastic flows and debris avalanches, mud flows and flooding, seismic activity, ground deformation, tsunami, atmospheric effects, and acid rains and gases (DOE 2002b). The primary hazard to the proposed CMRR-NF from a silicic eruption would likely be fallout of volcanic ash and pumice from a silicic volcanic eruption plume. Based on the areal distribution of the deposits from past eruptions, the high terrain of the caldera rim to the west of LANL is expected to limit the eastward extent of lava flows and pyroclastic flows. Hazards from ballistic projections, ground deformation, and volcanic gases are also expected to be limited to a similar area within the topographic rim of the Valles caldera to the west of LANL. In the absence of local bodies of surface water, tsunamis are not expected to pose a hazard to TA-55. Atmospheric effects (volcanogenic thunderstorms with lightning) and acid rains may affect facilities at TA-55, but are not expected to result in acute effects on operations and materials with the confines of the CMRR-NF.

Ash fall may produce roof loading; loadings associated with ash fall may be sufficient to exceed design load limits for the TA-55 facilities. In that event, structural failure could occur. Vaults and interior rooms should be relatively intact. A related hazard would be secondary mobilization of ash fall by rain forming mudflows. This possible hazard would be naturally mitigated by the relatively low slopes at TA-55 and the presence of deep canyons that would channel flows from the Jemez Mountains west of Los Alamos.

Lava flows may engulf or bury surface infrastructure and buildings. Basaltic lava flows may extend several kilometers from a vent and be up to several meters thick and 900 to 1,200 degrees Celsius. Explosions and surges may damage surface and subsurface facilities within several hundred meters of a vent. Because ash falls have the potential to affect large areas, the probability of volcanism that would produce an eruptive vent, explosions and surges, or lava flows near the area of TA-55 likely would be lower than the probability of ash fall affecting TA-55.

Based on the expected similarities between the facility impacts of a seismically induced spill and fire event and the volcanic ash fall event, it is expected that the seismically induced event results in consequences and risks that are similar to or greater than those for the volcanic ash fall event. The *CMRR-NF SEIS* seismic scenarios conservatively assume that several mechanisms are available for release: powder spills as with the seismically initiated building collapse, localized fire-induced pressurized releases of powder from storage containers, and localized fires as with the facility-wide fire scenario. Localized fire-induced pressurized releases of powder are assumed to occur with a limited number of storage containers. Typical temperatures of ash falls, as indicated by the Pinatubo and Mount St. Helens eruptions are relatively cool (less than 30 degrees Celsius) (LANL 2011d) and should not significantly impact the probability of fires associated with structural failures.

Since the release associated with structural failure resulting from ash fall loads is driven by the same physical phenomena, the material at risk and the release mechanisms should be similar to those for the analyzed seismic events. Thus conservative damage ratios and respirable release fractions applied to the material released as a result of impact or thermal stress for seismic events are applicable to the volcanic ash fall event. The building leak path factor conservatively assumed for the seismic analysis is expected to be the same as or higher than the leak path factor associated with volcanic ash fall events because the ash would contribute to the tortuousness of the leak path.

The frequency of the earthquake that results in wide-scale damage and loss of confinement for the building, coupled with a widespread seismically initiated fire, is conservatively assumed to be 0.00001 per year (on the order of once every 100,000 years) for risk calculation purposes. This is expected to be the same order of magnitude as the upper limit for the volcanic events described above.

Wildfires—The potential impacts of wildfires on LANL were evaluated in Appendix D of the 2008 *Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico (*2008 *LANL SWEIS)* (DOE 2008b). Wildfires are a reasonably expected event in the region; in the 2008 *LANL SWEIS,* the annual frequency of occurrence was estimated to be 0.05 (once every 20 years). The evaluation included in the 2008 *LANL SWEIS* identified the facilities most at risk of radiological release in the event of a wildfire and did not include the CMR Building or any buildings in TA-55. Wildfires such as the Las Conchas fire of June 2011 and Cerro Grande fire of May 2000 are not expected to threaten these facilities or the proposed Modified CMRR-NF because the shells of these facilities are constructed of non-combustible materials and a buffer area free of combustible materials is maintained around them. Recognizing the hazards of wildfire, forests are thinned as part of an ongoing wildfire mitigation program at LANL as indicated in Chapter 3, Section 3.7.1. The purpose of the thinning is to reduce the fuel load available in the event of a fire.

A wildfire in the LANL region, could indirectly affect operations at LANL by interrupting electrical services and limiting access to roadways. In the event of a wildfire, the LANL emergency operations center would be activated and, as with the Las Conchas fire, if determined to be necessary LANL and the townsite would be preemptively evacuated. If a regional wildfire disrupted the power provided to the CMR Building or at the proposed CMRR-NF, emergency backup power would be provided locally to maintain the most important systems. Emergency backup power would be provided to the CMR Building by the TA-3 power plant. Emergency backup generators dedicated to the CMRR-NF would provide power to that facility. As discussed Section C.9, plutonium materials stored within LANL plutonium facilities or in ongoing operations are generally stable in their configuration and would not require active cooling systems to keep them stable. Therefore, maintenance of power is not necessary to prevent significant releases to the environment.

C.4.2 New CMRR Facility Alternatives

Four accidents are included in this *CMRR-NF SEIS* to represent a wide range of possible accidents and risks. The four accident scenarios are common to all three alternatives being analyzed in this *CMRR-NF SEIS*. They are a facility-wide fire, a loading dock spill/fire, a seismically induced spill, and a seismically induced fire.

C.4.2.1 No Action Alternative (2004 CMRR-NF)

The accident analysis performed for this *CMRR-NF SEIS* incorporates current knowledge of the threat associated with a design-basis earthquake at LANL and is new compared to the analysis presented in the *Final Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* (DOE 2003b). The accidents described in this section pertain to the 2004 CMRR-NF at TA-55. For these accidents, two sets of source terms are presented. First, the conservative, bounding source term estimates developed in the safety-basis process[1] at LANL for the purposes of identifying the controls necessary to protect the public are presented. In general, these source term estimates take little if any credit for the integrity of containers or building confinement under severe accidents and assume a damage ratio of 1, meaning that all similar containers or other material at risk would be subjected to the similar, near-worst-case conditions. Furthermore, these safety evaluations generally assume a leak path factor of 1, meaning that all of the

[1] *This* CMRR-NF SEIS *uses the term Safety-Basis Scenario to identify accident scenarios that use very conservative assumptions regarding the potential release of radioactive material to the environment, for example not taking any credit for some containers surviving an accident or for some airborne material being captured by an air filtration system. The safety-basis process is used to identify controls that would mitigate the impacts of accidents to meet established guidelines for protection of the public and workers.*

material that is made airborne and respirable within the building or process enclosure is released to the environment.

For purposes of this *CMRR-NF SEIS*, a second set of source terms has been developed that attempts to present reasonable, but still conservative, estimates of source terms. These source terms take into account a range of responses of facility features and materials containers and typical operating practices at plutonium facilities at LANL and elsewhere. Therefore, for design-basis-type accidents, a damage ratio of 1 would not normally be realistic if the containers, process enclosures, limits on combustibles, and similar types of safety systems were expected to function during the accident. Similarly, the building confinement, including HEPA filters, is expected to continue functioning, although perhaps at a degraded level, during and after the accident.

Facility-Wide Fire—The accident scenario postulates that combustible materials near an ignition source are ignited in a laboratory area. This fire is a widespread fire involving the entire laboratory area. The fire could be initiated by natural phenomena, human error, or equipment failure.

Safety-Basis Scenario: The fire is assumed to propagate uncontrolled and without suppression to adjacent laboratory areas and the entire facility. The material at risk is estimated to be approximately 660 pounds (300 kilograms) of plutonium-239 equivalent in the form of metal (90 percent), oxide (8.3 percent), and liquid (1.7 percent). The scenario conservatively assumes the damage ratio and leak path factors are 1.0. No credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio and leak path factors to be less than 1.0. The released respirable fraction (airborne release fraction times respirable fraction) is estimated to be 0.00025 for metal, 0.00006 for oxide, and 0.002 for liquid. The source term for radioactive material released to the environment is about 2.8 ounces (80 grams). The annual frequency of the accident is estimated to range from 0.000001 to 0.0001 or once every 10,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.0001 per year for risk calculation purposes.

SEIS Scenario**:** Typical building construction for a reinforced concrete structure and normal limits on combustible materials would make a fire that propagates beyond the immediate vicinity of a glovebox or a room extremely unlikely without an additional source of fuel to support a propagating fire. Normal design standards for plutonium facilities would ensure that rooms were isolated with appropriate fire walls and barriers. Thus, a fire that propagates to the extent that it becomes a facility-wide fire would be considered a beyond-design-basis fire and the estimated frequency would be less than once every 1,000,000 years. The frequency is conservatively assumed to be 1×10^{-6} per year for risk calculation purposes.

The fire is assumed to propagate uncontrolled and without suppression to adjacent laboratory areas and the entire facility. The materials at risk and release mechanisms are conservatively assumed to be the same as those for the Safety-Basis Scenario. Thus, the material at risk is estimated to be approximately 660 pounds (300 kilograms) of plutonium-239 equivalent in the form of metal (90 percent), oxide (8.3 percent), and liquid (1.7 percent). The scenario conservatively assumes the damage ratio is 0.1, taking credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable even in a facility-wide fire. The released respirable fraction (airborne release fraction times respirable fraction) is estimated to be 0.00025 for metal, 0.00006 for oxide, and 0.002 for liquid. The building leak path factor is unknown, but it is expected that in an event this severe, the performance of the HEPA filters would be degraded. For a design-basis fire, the efficiency of a bank of HEPA filters in an air-handling system is expected to be 99 to 99.5 percent. For this beyond-design-basis, facility-wide fire, the filters are assumed to be partially bypassed and a leak path factor of 0.1 is assumed. The source term for radioactive material released to the environment is about 0.028 ounces (0.80 grams).

Loading Dock Spill/Fire—This accident scenario was selected to represent a wide range of spills and fires that might occur outside the CMRR-NF associated with the loading dock. This scenario is postulated to involve waste containers being shipped from the loading dock or a large vessel being delivered to the facility for processing or cleanup. Many engineered controls should prevent or mitigate both the likelihood of this type of accident or the damage that might occur, including design of the loading dock to prevent or minimize the risk of impacts to multiple containers and use of shipping packages designed to withstand shipping accidents. It is very conservatively assumed that a vehicle impacts waste drums containing the entire material at risk of 13.2 pounds (6.0 kilograms) of plutonium-239 equivalent with a subsequent spill or fire involving the containers. Since this accident would occur outside, any material would be released directly to the environment. For safety basis purposes, it is assumed that the damage ratio is 0.1 for mechanical insults associated with vehicles moving in and around a loading dock per DOE-STD-5506-2007 (DOE 2007).

<u>Safety Basis Scenario</u>: The leak path factor is assumed to be 1.0. The released respirable fraction (airborne release fraction times respirable fraction) is very conservatively estimated at 0.001 for the spill. The resulting source term of radioactive material released to the environment is estimated at 0.0212 ounces (0.60 grams). The annual frequency of the initiating accident is estimated to range from 0.0001 to 0.01 or once every 100 to 10,000 years. The frequency of a spill accident of this magnitude is conservatively assumed to be 0.01 per year for risk calculation purposes. A loading dock spill and subsequent fire was also considered but found, with reasonable assumptions regarding the airborne release fraction, respirable fraction, and the source term, that the consequences would not be higher than those predicted with the spill source term. (With a damage ratio of 0.1 and a leak path factor of 1.0, and assuming that some of the drum contents are ejected and subject to unconfined burning and some are subject to confined burning, a source term of 0.0198 ounces [0.56 grams] was estimated.)

<u>SEIS Scenario</u>: The descriptions of the scenario and releases fractions are the same as those described under the safety basis scenario. For this scenario, the annual frequency of the initiating accident is estimated to range from 0.000001 to 0.0001 or once every 10,000 to 1,000,000 years. The frequency for this scenario is conservatively assumed to be 0.0001 per year for risk calculation purposes.

Seismically Induced Events—Subsequent to the issuance of the *CMRR EIS*, it was concluded that the proposed 2004 CMRR-NF structure would not perform as originally intended during a LANL design-basis earthquake. Based on an updated probabilistic seismic hazards analysis, it was concluded that a design-basis earthquake, with a return interval of about 2,500 years, an estimated peak horizontal ground acceleration of 0.47 *g* and an estimated peak vertical ground acceleration of 0.51 *g* (LANL 2007, 2009) could cause the structure to fail and confinement could not be ensured.[2] The 2004 CMRR-NF confinement function was estimated to fail with a peak horizontal ground acceleration exceeding about 0.31 *g* and a peak vertical ground acceleration of about 0.27 *g*.[3] For earthquakes less severe than that, the building structure and confinement systems would be expected to continue to provide their safety functions. Many other safety systems that are not directly dependent on the complete integrity of the

[2] *In the 2007 update of the probabilistic seismic hazard of the LANL site, the peak horizontal ground acceleration was estimated to be 0.52 g and the peak vertical ground acceleration was estimated to be 0.6 (LANL 2007); they were subsequently revised to 0.47* g *and 0. 51* g, *respectively, for TA-55 (LANL 2009). The CMRR-NF would be constructed as a Performance Category 3 (PC-3) facility that would survive the specified design-basis earthquake. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b).*

[3] *The return interval for a seismic event with these previously used peak ground accelerations was 2,000 years rather than 2,500 years as used for the current design-basis earthquake.*

building structure for their safety function, such as process containers, would also be expected to remain intact during this lower magnitude earthquake, as well as during more-severe earthquakes.

Seismically Induced Spill—This accident scenario postulates an earthquake that causes internal enclosures to topple and become damaged by falling debris.

Safety-Basis Scenario: The material at risk is estimated to be 6.6 tons (6.0 metric tons) of plutonium-239 equivalent (all of the material at risk in the facility) in powder form. The scenario conservatively assumes the damage ratio and leak path factors are 1.0 indicating that the building structure has failed and is providing an open pathway to the environment. No credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio and leak path factors to be less than 1.0. The released respirable fraction (airborne release fraction times respirable fraction) is estimated at 0.002 for powder. The source term for radioactive material released to the environment is about 26 pounds (12 kilograms). The frequency of the accident is estimated to be in the range of 0.0001 to 0.01 per year or once every 100 to 10,000 years. The frequency is conservatively assumed to be 0.01 per year for risk calculation purposes.

SEIS Scenario: This accident scenario postulates an earthquake that causes many of the internal enclosures to topple and become damaged by falling debris. Much of the material in strong containers and in the vault is expected to survive the vibrations and impacts from falling equipment and falling debris. The materials at risk and release mechanisms are conservatively assumed to be similar to those for the Safety-Basis Scenario. Thus, the material at risk is estimated to be 6.6 tons (6.0 metric tons) of plutonium-239 equivalent in powder form. The scenario assumes the damage ratio is 0.1, taking credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable to release due to impacts, vibrations, or pressurized venting from cans. It is very conservatively assumed that all of this material is powder and subject to pressurized release. The released respirable fraction (airborne release fraction times respirable fraction) for the material at risk is estimated to be conservatively represented by an airborne release fraction of 0.005 and respirable fraction of 0.4, or 0.002 for the venting of powders or confinement failure to pressures of approximately 25 pounds per square inch or less (DOE 1994).

The building leak path factor is unknown, but it is expected that in an event this severe, building confinement would fail and pathways would exist for material that becomes airborne to be released directly to the environment. Thus, a leak path factor of 0.1 is assumed for transport of the material out of storage containers and enclosures, such as gloveboxes, and through the building equipment, damaged structures, and rubble to the environment. The source term for radioactive material released to the environment is about 4.2 ounces (120 grams). The annual frequency of the accident is estimated to be on the order of 0.001 or once every 1,000 years, based on the seismic studies that indicate that this 2004 CMRR-NF design would not perform its structural and safety confinement functions adequately in the event of an earthquake of the intensity currently estimated for a LANL design-basis earthquake. This frequency is a factor of 10 higher than that expected for a similar but more seismically resistant facility, such as the Modified CMRR-NF, that would meet current design standards. The frequency is conservatively assumed to be 0.001 per year for risk calculation purposes.

Seismically Induced Spill and Fire—This accident scenario postulates an earthquake that causes internal enclosures to topple and become damaged by falling debris. Combustibles in the facility are ignited and the fire engulfs radioactive material.

Safety-Basis Scenario: The material at risk is estimated to be 6.6 tons (6.0 metric tons) of plutonium-239 equivalent (all of the material in the facility) in powder form. The scenario conservatively assumes the damage ratio and leak path factors are 1.0. No credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio and leak path factors to be less than 1.0. The released respirable fraction (airborne release fraction times respirable fraction) is estimated at 0.07 for powder, which is a highly conservative estimate for a very high pressurized release from a storage can subjected to a long-burning fire. The source term for radioactive material released to the environment is about 926 pounds (420 kilograms). The frequency of the accident is estimated to be in the range of 0.000001 to 0.0001 per year or once every 10,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.0001 per year for risk calculation purposes.

SEIS Scenario: This accident scenario postulates an earthquake that causes many of the internal enclosures to topple and become damaged by falling debris. Much of the material in strong containers and in the vault is expected to survive the vibrations and impacts from falling equipment and falling debris. Multiple local fires are assumed to occur within the debris, although this seems very unlikely due to the limited quantities of combustible materials that would be available within the building. Material that is out and close to the fires is expected to be vulnerable to release. Material away from the fires and in strong containers is not expected to be released by the fires. Normal limits on combustible materials in a facility such as the CMRR-NF would make a fire that propagates beyond the immediate vicinity of the localized fires extremely unlikely without an additional source of fuel to support a propagating fire.

The material at risk and release mechanisms are conservatively assumed to be similar to those for the Safety-Basis Scenario. Thus, the material at risk is estimated to be 6.6 tons (6.0 metric tons) of plutonium-239 equivalent in powder form and to include that stored in the vaults. The SEIS scenario conservatively assumes that several mechanisms are available for release: powder spills as with the seismically initiated building collapse, localized fire-induced pressurized releases of powder from storage containers, and localized fires as with the facility-wide fire scenario.

The seismically initiated building collapse SEIS scenario is assumed to result in powder spills as discussed above in the safety-basis scenario. The same seismically induced spill source term is assumed with a release of about 4.2 ounces (120 grams).

Pressurized releases of powder caused by localized fires are assumed to affect a limited number of storage containers. The scenario assumes the damage ratio is 0.01, taking credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable. It is likely that even with a collapse scenario, material in the vaults would not be subject to release either through impacts or the thermal stress of fires. The released respirable fraction (airborne release fraction times respirable fraction) for the material at risk is estimated to be conservatively represented by an airborne release fraction of 0.005 and respirable fraction of 0.4, or 0.002, for the venting of powders or confinement failure from pressures of approximately 25 pounds per square inch or less (DOE 1994).

In addition to the release due to spills, some of the material is also vulnerable to release due to fires as with the facility-wide fire scenario. As with that scenario, it is conservatively assumed that the material at risk in the fire is estimated to be approximately 660 pounds (300 kilograms) of plutonium-239 equivalent in the form of metal (90 percent), oxide (8.3 percent), and liquid (1.7 percent). The fire release portion of the scenario conservatively assumes the damage ratio is 0.1, taking credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable even in a seismically initiated facility-wide fire. The released respirable fraction (airborne release fraction times respirable fraction) is estimated to be 0.00025 for metal, 0.00006 for oxide, and 0.002 for liquid. The overall effective released respirable fraction for the fire release is 0.000267.

The building leak path factor is unknown, but it is expected that in an event this severe, building confinement would fail and pathways would exist for the material that does become airborne to be released directly to the environment. Thus, a leak path factor of 0.1 is assumed for transport of the material out of storage containers and enclosures, such as gloveboxes, and through the building equipment, damaged structures, and rubble to the environment. The source term for radioactive material released to the environment is about 4.2 ounces (120 grams) from the spill release, 0.42 ounces (12 grams) from the venting of pressurized powders from heated containers, and 0.028 ounces (0.80 grams) from the fire, for a total of about 4.68 ounces (132.8 grams). The frequency of the earthquake that results in wide-scale damage and loss of confinement for the building, coupled with a widespread seismically initiated fire, is estimated to be in the range of 0.000001 to 0.0001 per year or once every 10,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.0001 per year for risk calculation purposes.

C.4.2.2 Modified CMRR-NF Alternative

The accidents described in this section pertain to the Modified CMRR-NF at TA-55. These accidents apply to the Modified CMRR-NF regardless of whether it was constructed under the Deep or Shallow Excavation Option. The two construction options would not affect the performance of the building once it was constructed. Under either construction option, the resulting building would meet the current standards required for a Performance Category 3 (PC-3) facility so it would perform the same in the event of a seismic accident.

The four accident scenarios analyzed for the 2004 CMRR-NF as described in Section C.4.2.1 would be applicable to the Modified CMRR-NF. Both the facility-wide fire and loading dock spill/fire accidents associated with the 2004 CMRR-NF would be directly applicable to the Modified CMRR-NF and accident scenarios and source terms should be similar. Because the Modified CMRR-NF would be stronger and could withstand higher peak ground accelerations than the 2004 CMRR-NF, the seismically induced spill and fire scenario would have a lower likelihood (would require higher seismic accelerations to fail, for example), and would likely release lower quantities of radioactive material to the environment. These safety-basis and NEPA accidents have been included for the Modified CMRR-NF because this facility is being designed to survive a design-basis earthquake accident (expected to occur once every 2,500 years), with an estimated peak horizontal ground acceleration of 0.47 *g*, and a peak vertical ground acceleration of 0.51 *g* (LANL 2009), and thus, the releases from such an earthquake would be mitigated, whereas the 2004 CMRR-NF was not designed to survive an earthquake of this magnitude. The Modified CMRR-NF would be a stronger structure and would include safety-class and safety-significant structures, systems, and components, collectively known as safety structures, systems, and components. As a result, mitigated releases were evaluated for the seismically induced spill accident and seismically induced fire accident, as described below:

Seismically Induced Spill—This accident scenario postulates an earthquake, of greater intensity than the LANL design-basis earthquake. The earthquake causes internal enclosures to topple and become damaged by falling debris.

Safety-Basis Scenario: The material at risk is reduced from 6.6 tons (6.0 metric tons) to 660 pounds (300 kilograms) of plutonium-239 equivalent in powder form because it is assumed that the vaults would survive this earthquake in the Modified CMRR-NF. The scenario assumes that the damage ratio and leak path factors are 1.0. Credit is taken for equipment and facility features and mitigating factors that could cause the airborne release fraction and respirable fraction to be reduced from those assumed for the 2004 CMRR-NF (unmitigated) accident. The released respirable fraction (airborne release fraction times respirable fraction) is estimated at 0.0001, compared to 0.002 for the 2004 CMRR-NF accident. The source term for radioactive material released to the environment is about 1.1 ounces (30 grams) compared to 26 pounds (12 kilograms) for the 2004 CMRR-NF accident. The frequency of the accident is estimated to be in the range of 0.000001 to 0.0001 per year or once every 10,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.0001 per year, or once every 10,000 years, for risk calculation purposes.

SEIS Scenario: This accident scenario postulates an earthquake that causes many of the internal enclosures to topple and become damaged by falling debris. Much of the material in strong containers and in the vault is expected to survive the vibrations and impacts from falling equipment and falling debris. The materials at risk and release mechanisms are conservatively assumed to be similar to those for the Safety-Basis Scenario. The material at risk is reduced from 6.6 tons (6.0 metric tons) to 660 pounds (300 kilograms) of plutonium-239 equivalent in powder form because it is assumed that the vaults in the Modified CMRR-NF would survive this earthquake. The scenario assumes the damage ratio is 0.1, taking credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable to release due to impacts, vibrations, or pressurized venting from cans. It is very conservatively assumed that all of this material is powder and subject to pressurized release. The released respirable fraction (airborne release fraction times respirable fraction) for the material at risk is estimated to be conservatively represented by an airborne release fraction of 0.005 and respirable fraction of 0.4, or 0.002, for the venting of powders or confinement failure to pressures of approximately 25 pounds per square inch gauge or less (DOE 1994).

The building leak path factor is unknown, but it is expected that in an event this severe, building confinement would fail and pathways would exist for the material that becomes airborne to be released directly to the environment. Thus, a leak path factor of 0.1 is assumed for transport of the material out of storage containers and enclosures, such as gloveboxes, and through the building equipment, damaged structures, and rubble to the environment. The source term for radioactive material released to the environment is about 0.21 ounces (6.0 grams). The annual frequency of the accident is estimated to be in the range of 0.000001 to 0.0001 or once every 10,000 to 1,000,000 years, based on the fact that this facility would be designed to meet current seismic standards and would perform its structural and safety confinement functions adequately in the LANL design-basis earthquake (estimated peak horizontal and vertical ground accelerations of 0.47 *g* and 0.51 *g* (LANL 2009), respectively, with a return interval of about 2,500 year). This frequency is a factor of 10 lower than is expected for a similar but less seismically resistant facility, such as the original 2004 CMRR-NF design that would not meet current design standards. The frequency is conservatively assumed to be 0.0001 per year for risk calculation purposes.

Seismically Induced Spill and Fire—This accident scenario postulates that an earthquake, of greater intensity than the LANL design-basis earthquake, causes internal enclosures to topple and become damaged by falling debris. Combustibles in the facility are ignited and the fire engulfs radioactive material.

Safety-Basis Scenario: The material at risk is 6.6 tons (6.0 metric tons) of plutonium-239 equivalent including metal, oxides, contained waste, and unconfined waste, in the form of contaminated combustible paper and trash located in the long-term vault, short-term vault, or in use in gloveboxes. Credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio, airborne release fraction, and respirable fraction to be reduced from those assumed for an unmitigated accident. A range of released respirable fractions (airborne release fraction times respirable fraction) are estimated depending on the form of the material at risk. The source term for radioactive material released to the environment is about 1.1 ounces (30 grams) from the spill release and 1.9 ounces (53 grams) from the fire, for a total of about 2.9 ounces (83 grams), compared to 926 pounds (420 kilograms) for the unmitigated accident. The frequency of the accident is estimated to be in the range of 0.000001 to 0.0001 per year or once every 10,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.0001 per year for risk calculation purposes.

SEIS Scenario: This accident scenario postulates an earthquake that causes many of the internal enclosures to topple and become damaged by falling debris. Much of the material in strong containers and in the vault is expected to survive the vibrations and impacts from falling equipment and falling debris. Multiple, local fires are assumed to occur within the debris, although this seems very unlikely due to the limited quantities of combustible materials that would be available within the building. Material that is out and close to the fires is expected to be vulnerable to release. Material away from the fires and in strong containers is not expected to be released by the fires. Normal limits on combustible materials would make a fire that propagates beyond the immediate vicinity of the localized fires extremely unlikely without an additional source of fuel to support a propagating fire.

The release mechanisms are assumed to be similar to those for the Safety-Basis Scenario. The material at risk is reduced from 6.6 tons (6.0 metric tons) to 660 pounds (300 kilograms) of plutonium-239 equivalent in powder form because it is assumed that the vaults in the Modified CMRR-NF would not be vulnerable to fires in this earthquake. The SEIS scenario conservatively assumes that several mechanisms contribute to the release: powder spills as with the seismically initiated building collapse, pressurized releases of powder from storage containers due to localized fires, and localized fires as with the facility-wide fire scenario. The seismically initiated building collapse is assumed to result in powder spills as discussed above under the seismically induced spill SEIS scenario (that is, a release of about 0.21 ounces [6.0 grams]).

Pressurized releases of powder due to localized fires are assumed to occur with a limited number of storage containers. The scenario conservatively assumes the damage ratio is 0.01, taking credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable. It is likely that even with a collapse scenario, material in the vaults would not be subject to release either through impacts or the thermal stress of fires. The released respirable fraction (airborne release fraction times respirable fraction) for the material at risk is estimated to be conservatively represented by an airborne release fraction of 0.005 and respirable fraction of 0.4, or 0.002, for the venting of powders or confinement failure to pressures of approximately 25 pounds per square inch or less (DOE 1994).

In addition to the release due to spills, some of the material is also vulnerable to release due to fires as with the facility-wide fire scenario. As with that scenario, it is conservatively assumed that the material at risk in the fire is estimated to be approximately 660 pounds (300 kilograms) of plutonium-239 equivalent in the form of metal (90 percent), oxide (8.3 percent), and liquid (1.7 percent). The fire release portion of the scenario conservatively assumes the damage ratio is 1.0, taking no credit for equipment and facility features and mitigating factors that should prevent most of the material from being out and vulnerable even in a seismically initiated facility-wide fire. The released respirable fraction (airborne release fraction times respirable fraction) is estimated to be 0.00025 for metal, 0.00006 for oxide, and 0.002 for liquid. The overall effective released respirable fraction for the fire release is 0.000267.

The building leak path factor is unknown, but it is expected that in an event this severe, building confinement would fail and pathways would exist for the material that does become airborne to be released directly to the environment. Thus, a leak path factor of 0.1 is assumed for transport of the material out of storage containers and enclosures, such as gloveboxes, and through the building equipment, damaged structures, and rubble to the environment. The source term for radioactive material released to the environment is about 0.21 ounces (6.0 grams) from the spill release, 0.021 ounces (0.60 grams) from the venting of pressurized powders from heated containers, and 0.028 ounces (0.80 grams) from the fire, for a total of about 0.26 ounces (7.4 grams). The frequency of the earthquake that results in wide-scale damage and loss of confinement for the building (on the order of once in 100,000 years), coupled with a widespread seismically initiated fire, is estimated to be in the range of 0.000001 to 0.00001 per year or once every 100,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.00001 per year for risk calculation purposes.

C.4.3 Continued Use of CMR Building Alternative

The accidents described in this section pertain to the CMR Building. For this existing building, the safety-basis scenarios and the NEPA scenarios are similar since they are based on the existing facility and the existing safety analyses. The principal differences in the safety-basis approach and the NEPA approach is the degree of conservatism in the estimation of the material at risk, release mechanisms, damage ratios, fractions made airborne and respirable, and leak path factors. The safety-basis scenarios assume damage ratios of 1.0. The fractions made airborne and respirable by the real-world stresses implied by these scenarios are also conservative. Because of the age and construction of the building, the NEPA scenarios would assume similar damage ratios and leak path factors as the safety-basis scenarios and no separate analyses are provided. It is estimated that real-world releases for any of these CMR Building accident scenarios would be somewhat lower than these conservative safety-basis estimates. Operational practices and limits at the CMR Building limit the potential consequences of these accidents by limiting the material at risk within the building.

Wing-Wide Fire—This accident scenario postulates that combustible materials near an ignition source are ignited in a laboratory area and the fire spreads to a second wing, engulfing both wings. The fire could be initiated by natural phenomena, human error, or equipment failure. The fire is assumed to propagate uncontrolled and without suppression to adjacent laboratory areas. The material at risk is estimated to be approximately 22 pounds (10 kilograms) of plutonium-239 equivalent in any form (for example, metals, solutions, oxides, powders). The scenario conservatively assumes the damage ratio and leak path factors are 1.0. No credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio and leak path factors to be less than 1.0. A range of released respirable fractions (airborne release fraction times respirable fraction) are estimated depending on the form of the material at risk. The source term for radioactive material released to the environment is about 0.4 ounces (12 grams). The annual frequency of the accident is estimated to range from 0.0001 to 0.01 or once every 100 to 10,000 years. The frequency is conservatively assumed to be 0.01 per year for risk calculation purposes.

Loading Dock Spill/Fire—This scenario was selected to represent a wide range of spills and fires that might occur outside the CMR Building associated with the loading dock. This scenario is postulated to involve waste containers being shipped from the loading dock or a large vessel being delivered to the facility for processing or cleanup. Many engineered controls should prevent or mitigate both the likelihood of this type of accident or the damage that might occur, including design of the loading dock to minimize the risk of impacts to multiple containers and use of shipping packages designed to withstand shipping accidents. It is very conservatively assumed that a vehicle impacts waste drums containing the entire material at risk of 13.2 pounds (6.0 kilograms) of plutonium-239 equivalent with a subsequent spill or fire involving the containers. Since this would occur outside, any release would be directly to the environment. For safety basis purposes, it is assumed that the damage ratio is 0.1 for mechanical insults associated with vehicles moving in and around a loading dock per DOE-STD-5506-2007 (DOE 2007).

The leak path factor is assumed to be 1.0. The released respirable fraction (airborne release fraction times respirable fraction) is very conservatively estimated at 0.001 for the spill. The resulting source term of radioactive material released to the environment is estimated at 0.0212 ounces (0.60 grams). The annual frequency of the initiating accident is estimated to range from 0.0001 to 0.01 or once every 100 to

10,000 years. The frequency of a spill accident of this magnitude is conservatively assumed to be 0.01 per year for risk calculation purposes. A loading dock spill and subsequent fire was also considered but found to be with reasonable assumptions, ARFs, and RF, the source term and consequences would not be higher than those predicted with the bounding spill source term. With a damage ratio of 0.1 and a leak path factor of 1.0, and assuming that some of the drum contents are ejected and subject to unconfined burning, and some subject to confined burning, a source term of 0.0198 ounces (0.56 grams) was estimated.

Seismically Induced Spill—This accident scenario postulates that an earthquake of lower magnitude than the current design-basis earthquake causes internal enclosures to topple and become damaged by falling debris. The material at risk is estimated to be about 33 pounds (15 kilograms) of plutonium-239 equivalent. The reduced material at risk in this scenario compared to the CMRR-NF accident scenarios is a result of changes made in CMR operations due to safety concerns associated with the performance of the CMR Building in an earthquake such as the one postulated in this accident scenario. Material at risk that is released as a result of the seismic event may be in any form, including powders, solutions, and metals. The scenario conservatively assumes the damage ratio and leak path factors are 1.0 indicating that the building structure has failed and is providing an open pathway to the environment. No credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio and leak path factors to be less than 1.0. A range of released respirable fractions (airborne release fraction times respirable fraction) are estimated depending on the form of the material at risk. The source term for radioactive material released to the environment is about 1.1 ounces (30 grams). The frequency of the accident is estimated to be in the range of 0.0001 to 0.01 per year or once every 100 to 10,000 years. The frequency is conservatively assumed to be 0.01 per year for risk calculation purposes.

Seismically Induced Fire—This accident scenario postulates an earthquake causes internal enclosures to topple and become damaged by falling debris. Combustibles in the facility are ignited and the fire engulfs radioactive material. The material at risk is estimated to be about 33 pounds (15 kilograms) of plutonium-239 equivalent. The reduced material at risk for this scenario compared to the CMRR-NF accident scenarios is a result of changes made in CMR operations due to safety concerns associated with the performance of the CMR Building in an earthquake such as the one postulated in this accident scenario. Material at risk that is released as a result of the seismic event may be in any form, including powders, solutions, and metals. The scenario conservatively assumes the damage ratio and leak path factors are 1.0. No credit is taken for equipment and facility features and mitigating factors that could cause the damage ratio and leak path factors to be less than 1.0. A range of released respirable fractions (airborne release fraction times respirable fraction) are estimated depending on the form of the material at risk. The source term for radioactive material released to the environment is about 2.1 ounces (61 grams). The frequency of the accident is estimated to be in the range of 0.000001 to 0.0001 per year or once every 10,000 to 1,000,000 years. The frequency is conservatively assumed to be 0.0001 per year for risk calculation purposes.

C.5 Accident Analyses Consequences and Risk Results

The potential impacts of a radiological accident on workers and the public can be measured in a number of ways depending on the application. Three measures are used in this *CMRR-NF SEIS*. The first measure of consequences is individual dose, expressed in terms of rem or millirem for a member of the public or worker, and collective dose, expressed in terms of person-rem for members of the public or a population of workers. The second measure is a post-exposure effect that reflects the likelihood of an LCF for an exposed individual or the expected number of LCFs in a population of exposed individuals. Individual or public exposure to radiation can only occur if there is an accident involving radioactive materials, which leads to the third measure. The third measure of potential accident impacts is referred to as risk that takes into account the probability (or frequency) of the accident's occurrence. Risk is the mathematical product of the probability or frequency of accident occurrence and the LCF consequences. Risk is calculated as follows:

For an individual

$R_i = D_i \times F \times P$ where:

- R_i is the risk of an LCF for an individual receiving a dose D_i in LCFs per year
- D_i is the dose in rem to an individual
- F is the dose-to-LCF conversion factor, which is 0.0006 LCFs per rem for individuals.
- P is the probability or frequency of the accident, usually expressed on a per-year basis.

For a population

$R_p = D_p \times F \times P$ where:

- R_p is the risk for a population receiving a dose D_p in LCFs per year
- D_p is the dose in person-rem to a population
- F is the dose-to-LCF conversion factor, which is 0.0006 LCFs per person-rem for a population of workers for members of the public.
- P is the probability or frequency of the accident, usually expressed on a per-year basis.

Once the source term, the amount of radioactive material released to the environment for each accident scenario, is determined, the radiological consequences are calculated. The calculations and resulting impacts vary depending on how the radioactive material release is dispersed, what materials are involved, and which receptors are being considered.

For example, if the dose to an individual (the MEI or a noninvolved worker) is 10 rem, the probability of an LCF for an individual is $10 \times 0.0006 = 0.006$, where 0.0006 is the dose-to-LCF conversion factor. If the individual receives a dose exceeding 20 rem, the dose-to-LCF conversion factor is doubled, to 0.0012. Thus, if the MEI receives a dose of 30 rem, the probability of an LCF is $30 \times 0.0012 = 0.036$. For an individual, the calculated probability of an LCF is in addition to the probability of cancer from all other causes.

For the population, the same dose-to-LCF conversion factors are used to determine the estimated number of LCFs. The calculated number of LCFs in the population is in addition to the number of cancer fatalities that would result from all other causes. The MACCS2 computer code calculates the dose to each individual in the exposed population and applies the appropriate dose-to-LCF conversion factor to estimate the LCF consequences, 0.0006 for doses less than 20 rem or 0.0012 for doses greater than or equal to 20 rem. Therefore, for some accidents, the estimated number of LCFs will involve both dose-to-LCF conversion factors. This indicates that some members of the population are estimated to receive doses in excess of 20 rem.

After any accident that had the potential for a release of concern, the standard emergency procedures require survey of the nearby areas to check for potential contamination and identify areas where radioactive particles had been deposited. With modern radiation survey techniques, plutonium particles in the environment can be detected at very low levels.

Tables C–1 through **C–6** present the facility accident impacts under the alternatives. For each alternative, there are two tables showing the impacts. The first table presents the consequences (doses and LCFs) assuming the accident occurs, that is, not reflecting the frequency of accident occurrence. The second table shows the accident risks that are obtained by multiplying the LCF values in the first table by the annual frequency of each accident listed in the first table.

Table C–1 Accident Frequency and Consequences Under the No Action Alternative

Accident	Frequency (per year)	Maximally Exposed Individual		Offsite Population [a]		Noninvolved Worker at Technical Area Boundary	
		Dose (rem)	Latent Cancer Fatality [b]	Dose (person-rem)	Latent Cancer Fatalities [c]	Dose (rem)	Latent Cancer Fatality [b]
Safety-Basis Scenarios							
Facility-wide fire	0.0001	1.1	0.0007	700	0 (0.4)	5.9	0.004
Seismically induced spill	0.01	600	0.7	140,000	84	20,000	1
Seismically induced spill and fire [d]	0.0001	5,600	1	3,900,000	2,300	47,000	1
Loading dock spill/fire	0.01	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006
SEIS Scenarios							
Facility-wide fire	0.000001	0.011	0.000007	7.1	0 (0.004)	0.059	0.00004
Seismically induced spill	0.001	6.0	0.004	1,400	1 (0.8)	200	0.2
Seismically induced spill and fire [d]	0.0001	6.2	0.004	1,500	1 (0.9)	200	0.2
Loading dock spill/fire	0.0001	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006

SEIS = supplemental environmental impact statement.

[a] Based on a projected 2030 population estimate of approximately 511,000 persons residing within 50 miles (80 kilometers) of TA-55.

[b] Increased likelihood of an LCF for an individual, assuming the accident occurs.

[c] Increased number of LCFs in the offsite population, assuming the accident occurs (results rounded to one significant figure). When the reported value is zero, the result calculated by multiplying the collective dose to the population by the risk factor (0.0006 LCFs per person-rem) is shown in parentheses.

[d] In the seismically induced spill and fire accident scenario, two sequential events are considered: first the seismic spill occurs and then releases due to the fire occur.

Table C–2 Annual Accident Risks Under the No Action Alternative

Accident	Risk of Latent Cancer Fatality		
	Maximally Exposed Individual [a]	Offsite Population [b, c]	Noninvolved Worker at Technical Area Boundary [a]
Safety-Basis Scenarios			
Facility-wide fire	7×10^{-8}	4×10^{-5}	4×10^{-7}
Seismically induced spill	7×10^{-3}	8×10^{-1}	1×10^{-2}
Seismically induced spill and fire [d]	1×10^{-4}	2×10^{-1}	1×10^{-4}
Loading dock spill/fire	2×10^{-7}	4×10^{-5}	6×10^{-6}
SEIS Scenarios			
Facility-wide fire	7×10^{-12}	4×10^{-9}	4×10^{-11}
Seismically induced spill	4×10^{-6}	8×10^{-4}	2×10^{-4}
Seismically induced spill and fire [d]	4×10^{-7}	9×10^{-5}	2×10^{-5}
Loading dock spill/fire	2×10^{-9}	4×10^{-7}	6×10^{-8}

SEIS = supplemental environmental impact statement.

[a] Risk of a LCF to the individual.

[b] Risk of an additional LCF in the offsite population.

[c] Based on a projected 2030 population estimate of approximately 511,000 persons residing within 50 miles (80 kilometers) of TA-55.

[d] In the seismically induced spill and fire accident scenario, two sequential events are considered: first the seismic spill occurs and then releases due to the fire occur.

Table C–3 Accident Frequency and Consequences Under the Modified CMRR-NF Alternative

Accident	Frequency (per year)	Maximally Exposed Individual		Offsite Population [a]		Noninvolved Worker at Technical Area Boundary	
		Dose (rem)	Latent Cancer Fatality [b]	Dose (person-rem)	Latent Cancer Fatalities [c]	Dose (rem)	Latent Cancer Fatality [b]
Safety-Basis Scenarios							
Facility-wide fire	0.0001	1.1	0.0007	700	0 (0.4)	5.9	0.004
Seismically induced spill with mitigation	0.0001	1.5	0.0009	350	0 (0.2)	51	0.06
Seismically induced spill and fire with mitigation [d]	0.0001	2.1	0.001	820	0 (0.5)	54	0.07
Loading dock spill/fire	0.01	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006
SEIS Scenarios							
Facility-wide fire	0.000001	0.011	0.000007	7.1	0 (0.004)	0.059	0.00004
Seismically induced spill with mitigation	0.0001	0.30	0.0002	71	0 (0.04)	10	0.006
Seismically induced spill and fire with mitigation [d]	0.00001	0.32	0.0002	83	0 (0.05)	10	0.006
Loading dock spill/fire	0.0001	0.028	0.00002	6.6	0 (0.004)	1.0	0.0006

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility, SEIS = supplemental environmental impact statement.

[a] Based on a projected 2030 population estimate of approximately 511,000 persons residing within 50 miles (80 kilometers) of TA-55.

[b] Increased likelihood of an LCF for an individual, assuming the accident occurs.

[c] Increased number of LCFs in the offsite population, assuming the accident occurs (results rounded to one significant figure). When the reported value is zero, the result calculated by multiplying the collective dose to the population by the risk factor (0.0006 LCFs per person-rem) is shown in parentheses.

[d] In the seismically induced spill and fire accident scenario, two sequential events are considered: first the seismic spill occurs and then releases due to the fire occur.

Table C–4 Annual Accident Risks Under the Modified CMRR-NF Alternative

Accident	Risk of Latent Cancer Fatality		
	Maximally Exposed Individual [a]	Offsite Population [b, c]	Noninvolved Worker at Technical Area Boundary [a]
Safety-Basis Scenarios			
Facility-wide fire	7×10^{-8}	4×10^{-5}	4×10^{-7}
Seismically induced spill with mitigation	9×10^{-8}	2×10^{-5}	6×10^{-6}
Seismically induced spill and fire with mitigation [d]	1×10^{-7}	5×10^{-5}	7×10^{-6}
Loading dock spill/fire	2×10^{-7}	4×10^{-5}	6×10^{-6}
SEIS Scenarios			
Facility-wide fire	7×10^{-12}	4×10^{-9}	4×10^{-11}
Seismically induced spill with mitigation	2×10^{-8}	4×10^{-6}	6×10^{-7}
Seismically induced spill and fire with mitigation [d]	2×10^{-9}	5×10^{-7}	6×10^{-8}
Loading dock spill/fire	2×10^{-9}	4×10^{-7}	6×10^{-8}

CMRR-NF = Chemistry and Metallurgy Research Building Replacement Nuclear Facility, SEIS = supplemental environmental impact statement.

[a] Risk of a LCF to the individual.

[b] Risk of an additional LCF in the offsite population.

[c] Based on a projected 2030 population estimate of approximately 511,000 persons residing within 50 miles (80 kilometers) of TA-55.

[d] In the seismically induced spill and fire accident scenario, two sequential events are considered: first the seismic spill occurs and then releases due to the fire occur.

Table C–5 Accident Frequency and Consequences Under the Continued Use of CMR Building Alternative

Accident	Frequency (per year)	Maximally Exposed Individual		Offsite Population [a]		Noninvolved Worker at Technical Area Boundary	
		Dose (rem)	Latent Cancer Fatality [b]	Dose (person-rem)	Latent Cancer Fatalities [c]	Dose (rem)	Latent Cancer Fatality [b]
Wing-wide fire [d]	0.01	0.26	0.0002	140	0 (0.09)	0.65	0.0004
Seismically induced spill	0.01	2.2	0.001	580	0 (0.4)	21	0.03
Seismically induced spill and fire [e]	0.0001	4.3	0.003	1,200	1 (0.7)	42	0.05
Loading dock spill/fire	0.01	0.07	0.00004	11	0 (0.007)	0.69	0.0004

CMR = chemistry and metallurgy research.

[a] Based on a projected 2030 population estimate of approximately 502,000 persons residing within 50 miles (80 kilometers) of TA-3.

[b] Increased likelihood of an LCF for an individual, assuming the accident occurs.

[c] Increased number of LCFs for the offsite population, assuming the accident occurs (results rounded to one significant figure). When the reported value is zero, the result calculated by multiplying the collective dose to the population by the risk factor (0.0006 LCFs per person-rem) is shown in parentheses.

[d] A major fire was assumed to involve two wings.

[e] In the seismically induced spill and fire accident scenario, two sequential events are considered: first the seismic spill occurs and then releases due to the fire occur.

Table C–6 Annual Accident Risks Under the Continued Use of CMR Building Alternative

Accident	Risk of Latent Cancer Fatality		
	Maximally Exposed Individual [a]	Offsite Population [b, c]	Noninvolved Worker at Technical Area Boundary [a]
Wing-wide fire	2×10^{-6}	9×10^{-4}	4×10^{-6}
Seismically induced spill	1×10^{-5}	4×10^{-3}	3×10^{-4}
Seismically induced spill and fire[d]	3×10^{-7}	7×10^{-5}	5×10^{-6}
Loading dock spill/fire	4×10^{-7}	7×10^{-5}	4×10^{-6}

CMR = chemistry and metallurgy research.

[a] Risk of a LCF to the individual.

[b] Risk of an additional LCF in the offsite population.

[c] Based on a projected 2030 population estimate of approximately 502,000 persons residing within 50 miles (80 kilometers) of TA-3.

[d] In the seismically induced spill and fire accident scenario, two sequential events are considered: first the seismic spill occurs and then releases due to the fire occur.

C.6 Potential Land Contamination Following Severe Earthquakes

Seismic events that result in failure of building containment of plutonium facilities have the potential to release sufficient quantities of plutonium, leading to concerns regarding surface contamination in the immediate vicinity of the facility. Even for the severe earthquakes that could lead to major damage within the facility and the building structure and failure of confinement systems, there should not be large energy sources to drive the materials that would typically be used in the proposed CMRR-NF, such as plutonium metal and oxides, out of the damaged building and rubble. Seismic collapse scenarios that result primarily in spills could release plutonium materials through the rubble, but that material would not generally go far from the building site. Seismic collapse scenarios that involve large fires have the potential to loft materials such that transport of radioactive materials downwind might result in land contamination at levels that could require monitoring or additional actions.

The seismically induced spill and seismically induced spill with fire SEIS scenarios discussed in Sections C.4.2.1, C.4.2.2, and C.4.3 were modeled using the HotSpot code (LLNL 2011) to evaluate the potential land area that might be contaminated above certain levels as a result of these extremely unlikely accidents. This *CMRR-NF SEIS* uses a plutonium areal concentration of 0.2 microcuries per square meter as a screening level for determining the lateral extent of contamination that might require cleanup actions (Chanin 1996). This screening level was first proposed by EPA in the late 1970s but never formally adopted. It has been used in many environmental impact statements to indicate land areas that would not likely require remedial actions. Land contaminated with transuranic material at levels above the screening level would likely require additional monitoring and evaluations to determine if cleanup were appropriate. Estimations of land areas that might be contaminated are highly dependent on specific accident source terms and metrological modeling assumptions. This is because the amount of radioactive material that may accumulate on the ground is highly dependent on the size of the particles that get through the building rubble and released to the environment (which determines how fast they settle back to the ground), the specific accident conditions (for example, including a fire or not), and specific meteorological conditions during the earthquake. In general, unless there is a fire that can effectively loft the plutonium particles into the air, most of the particles would return to the ground within a few hundred meters of the building location.

If a large fire is assumed to follow the seismically induced spill at the 2004 CMRR-NF, then the heat energy could effectively raise the release height such that ground contamination at the screening level could extend out to approximately 10 miles (16 kilometers) from TA-55 depending in large part on the meteorological conditions at the time of the earthquake. A similar scenario involving the Modified CMRR-NF has a much lower expected source term (0.26 ounces [7.4 grams] of plutonium-239 equivalent compared to 4.68 ounces [132.8 grams]) (see Section C.4). If this accident were to occur at the Modified CMRR-NF, no land outside of TA-55 is projected to be contaminated above the screening level. A similar seismically induced spill and fire at the existing CMR Building with its reduced material at risk would result in an estimated release of 2.1 ounces (61 grams) of plutonium-239 equivalent (see Section C.4). If this accident were to occur at the CMR Building, it could contaminate downwind areas extending out to approximately 6.2 miles (10 kilometers) from TA-3, depending in large part on the meteorological conditions at the time of the earthquake as discussed above for the 2004 CMRR-NF.

As stated earlier, contaminated areas at levels above 0.2 microcuries per square meter would potentially need further action, such as radiation surveys or cleanup. Costs associated with these efforts, as well as continued monitoring activities, could vary widely depending upon the characteristics of the contaminated area and could range in the hundreds of million dollars per square kilometer for land decontamination (NASA 2006). In addition to the potential direct costs of radiological surveys, potential cleanup, and monitoring following an accident, there are potential secondary societal costs associated with the mitigation from high consequence accidents. Those costs could include, but may not be limited to the following:

- temporary or longer-term relocation of residents
- temporary or longer-term loss of employment
- destruction or quarantine of agricultural products
- land-use restrictions (which could affect real estate values, businesses, and recreational activities);
- public health effects and medical care

C.7 Combined Impacts from TA-55 Building Collapses and Fires Resulting from a Beyond-Design-Basis Earthquake

If a severe earthquake were to occur in the Los Alamos area, nearby individuals could receive impacts from several facilities that might be damaged. Individuals close to and downwind from TA-55 might receive exposure from radioactive material releases at the existing TA-55 Plutonium Facility as well as the proposed Modified CMRR-NF should it be built. The Modified CMRR-NF would be designed to withstand an earthquake with a peak horizontal ground acceleration of 0.47 *g* and a peak vertical ground acceleration of 0.51 *g* (with a return period of 2500 years) with limited releases. The TA-55 Plutonium Facility was originally designed to a lower seismic standard, but NNSA is in the process of upgrading it to withstand higher seismic loadings. By the time the proposed Modified CMRR-NF would be operational, the TA-55 Plutonium Facility is expected to be able to survive the current design-basis earthquake (peak horizontal ground acceleration of 0.47 *g*, peak vertical ground acceleration of 0.51 *g*) with limited releases. Both the Modified CMRR-NF and the upgraded TA-55 Plutonium Facility would have multi-layered defenses to limit releases from storage containers, gloveboxes, equipment, vaults, and the building. Even with limited failures of containers, gloveboxes, equipment, and the building structures, the releases would be limited as discussed earlier for the Modified CMRR-NF Alternative. The release mechanisms for either the Modified CMRR-NF or the TA-55 Plutonium Facility would be similar and the total amount of radioactive material that could be released would be more or less proportional to the amounts and forms of materials that might be at risk in either facility. As proposed, the Modified CMRR-NF would likely have much less material at risk in a severe seismic event than the TA-55 Plutonium Facility.

The potential impacts due to releases from the TA-55 Plutonium Facility from severe earthquakes were evaluated in the 2008 *LANL SWEIS* (DOE 2008b). For a site-wide seismic event, which corresponded to approximately a PC-3 earthquake[4] the estimated doses from the Plutonium Facility (TA-55-4), the Storage Facility (TA-55-185), and the Safe, Secure Transport Facility (TA-55-355) totaled about 160 rem to the MEI and 14,880 person-rem to the population residing within 50 miles (80 kilometers) of TA-55. About 150 rem of the dose to the MEI was estimated to be from the TA-55 Plutonium Facility. These doses represent a probability of the MEI developing a fatal cancer of 0.19 or approximately 1 chance in 5, and are expected to result in about 9 LCFs in the population surrounding the site, if the accident occurred.

DOE has committed to seismic upgrades to the TA-55 Plutonium Facility that would result in an updated safety-basis estimate (NNSA 2011) of mitigated consequences less than the 25 rem to the MEI (the DOE Evaluation Guideline described in DOE Standard 3009) for a seismically induced fire. Proposed future improvements that will be incorporated into the TA-55 Plutonium Facility include fire-rated containers, seismically qualified fire suppression systems, and seismically qualified portions of the confinement ventilation system. The 2011 safety basis analysis prepared in support of NNSA's response to the Defense Nuclear Facilities Safety Board (DNFSB) concluded that seismically upgrading the fire suppression system would further reduce calculated offsite consequences to the MEI to the level estimated for the seismically induced spill without fire, which is about 9 rem (NNSA 2011).

The upgrades to the TA-55 Plutonium Facility are ongoing and would be complete prior to the proposed Modified CMRR-NF becoming operational. However, under the No Action Alternative, the 2004 CMRR-NF, could be completed prior to completing the TA-55 Plutonium Facility upgrades. The 2004

[4] The estimated dose consequences included in the LANL SWEIS (DOE 2008b) were based on a PC-3 seismic event with a return period of 2,000 years and a peak horizontal ground acceleration of approximately 0.31 g (the current PC-3 seismic event return period is 2,500 years). The 2007 Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory (LANL 2007) had been recently issued and an evaluation of the effects of the new data on LANL facilities was just getting underway. The consequences of a current PC-3 seismic event likely would be higher than estimated in the LANL SWEIS.

CMRR-NF would be located at TA-55 and would also be vulnerable to releases during severe earthquakes. For the 2004 *CMRR-NF SEIS* scenarios, Table C-1 indicates that the MEI doses from the seismically induced spill or seismically induced spill plus fire are estimated to be about 6 rem. For the MEI closest to the TA-55 area, the doses from the 2004 CMRR-NF would add directly to those from the other TA-55 facilities. The dose from the TA-55 Plutonium Facility, with its larger inventory, is still expected to be the major contributor to the offsite doses. When the updated TA-55 facility doses are combined with the projected doses from the 2004 CMRR-NF in the event of a severe earthquake, prior to completion of the TA-55 Plutonium Facility upgrades, the dose to the MEI would be about 166 rem, and the 2030 estimated population dose within 50 miles (80 kilometers) of LANL would be about 16,400 person-rem. These doses correspond to a probability of the MEI developing a fatal cancer of 0.2 (1 chance in 5) and the likelihood of up to 10 LCFs in the 50-mile (80-kilometer) population. After completion of the TA-55 Plutonium Facility upgrades, the dose to the MEI would be about 25 rem, and the 2030 estimated population dose within 50 miles (80 kilometers) of LANL would be about 6,000 person-rem. For the MEI, this analysis takes into account the revised MEI dose of 19 rem (9 rem from the revised 2011 safety basis for the TA-55 Plutonium Facility and 10 rem for releases from other facilities at TA-55 from the 2008 *LANL SWEIS*). Note that the MEI dose is independent of the changes in the population, since it focuses on the maximum dose to an individual at the nearest site boundary. Given a severe seismic event, these doses represent a probability of the MEI developing a fatal cancer of 0.03 or approximately 1 chance in 33, and the likelihood of up to 4 LCFs in the exposed population surrounding the site.

The proposed Modified CMRR-NF would be located at TA-55 and would also be vulnerable to releases during severe earthquakes, although these releases are expected to be much smaller than those estimated for the 2004 CMRR-NF due to the increased structural integrity of the Modified CMRR-NF. For the SEIS scenario, Table C–3 indicates that the MEI doses for the seismically induced spill or seismically induced spill plus fire are estimated to be about 0.3 rem. For the MEI closest to TA-55, the doses from the Modified CMRR-NF would add directly to those from the other TA-55 facilities. The dose from the Plutonium Facility, with its larger inventory, is still expected to be the major contributor to the MEI dose. When the updated TA-55 facility doses are combined with the projected doses from the Modified CMRR-NF in the event of a severe earthquake, the dose to the MEI would be about 19 rem (19 rem from the TA-55 Plutonium Facility and other facilities at TA-55 as discussed above and 0.3 rem from the Modified CMRR-NF) and the 2030 estimated population dose within 50 miles (80 kilometers) of LANL would be about 4,500 person-rem. Given a severe seismic event, these doses represent a probability of the MEI developing a fatal cancer of 0.023 or approximately 1 chance in 44, and the likelihood of up to 3 LCFs in the population surrounding the site.

C.8 Analysis Conservatism and Uncertainty

The analysis of accidents is based on calculations relevant to postulated sequences of accident events and models used to calculate the accident's consequences. The models provide estimates of the frequencies, source terms, pathways for dispersion, exposures, and the effects on human health and the environment that are as realistic as possible within the scope of the analysis. In many cases, the rare occurrence of postulated accidents leads to uncertainty in the calculation of the consequences and frequencies. This fact has promoted the use of models or input values that yield conservative estimates of consequences and frequency.

Due to the layers of conservatism built into the accident analysis for the spectrum of postulated accidents, the estimated consequences and risks to the public represent the upper limit for the individual classes of accidents. The uncertainties associated with the accident frequency estimates are enveloped by the conservatism in the analysis.

The numerical estimates of LCFs presented in this *CMRR-NF SEIS* were obtained using a linear extrapolation from the nominal risk estimated for lifetime total cancer mortality that results from a dose of 10 rad. Other methods of extrapolation to the low-dose region could yield higher or lower numerical estimates of LCFs. Studies of human populations exposed to low doses are inadequate to demonstrate the actual level of risk. There is scientific uncertainty about cancer risk in the low-dose region below the range of epidemiologic observation. However, comprehensive review of available biological and biophysical data supports a "linear-no-threshold" risk model—in which the risk of cancer proceeds in a linear fashion at lower doses without a threshold—and that the smallest dose has the potential to cause a small increase in risk to humans (National Research Council 2006). Because the health risk estimators are multiplied by conservatively calculated radiological doses to predict fatal cancer risks, the fatal cancer values presented in this *CMRR-NF SEIS* are expected to be conservative estimates.

C.9 Fukushima Daiichi Nuclear Power Plant Accident Implications

Beyond-design-basis earthquakes have the potential to result in loss of offsite power and the potential to disrupt emergency or backup power as was the case in the Fukushima Daiichi Nuclear Power Plant. Except for the fire suppression system, the safety-class structures, systems, and components at the CMRR-NF are passive engineered features. The fire suppression system is independent of the regional electrical power system for providing its safety-class function. As discussed in Section C.4, severe seismic events have the potential to result in substantial damage to storage containers and enclosures, such as gloveboxes, and result in the release of radioactive material through the building equipment, damaged structures, and rubble to the environment. In such severe events, it is expected that all power, including backup power, could be unavailable for hours or days. This could cause operational problems and hinder damage assessment and cleanup, but is not expected to result in additional release of radioactive material to the environment.

Unlike the Fukushima Daiichi Nuclear Power Plant reactors and spent fuel pools, plutonium materials stored within LANL plutonium facilities or in ongoing operations are generally stable in their configuration and would not require active cooling systems to keep them stable and prevent additional releases to the environment. These materials would require a large energy source, such as an external, fuel-fed fire or a large plane crash into the facility, to disperse them into the environment. Plutonium oxides behave much like sand and would require additional energy, such as high-pressure air or an explosion, to disperse them into the environment. The stability of plutonium metal varies depending on the size of the piece. Fine metal turnings from a lathe oxidize immediately, much like iron does in sparklers. Larger pieces of plutonium metal oxidize slowly and form an oxide crust. The rapid oxidation of plutonium metal requires a large energy source, such as an external, fuel-fed fire. Otherwise, the oxidation is slow and self limiting. Plutonium in liquid form would typically be a plutonium nitrate. This would also be stable and require an external energy source to disperse the liquid.

The only forms of plutonium that generate enough heat to require long-term cooling are plutonium-238 heat sources. No plutonium-238 is stored in the CMR Building or would be stored in the proposed CMRR-NF.

C.10 MACCS2 Code Description

The MACCS2 computer code is used to estimate the radiological doses and health effects that could result from postulated accidental releases of radioactive materials to the atmosphere. The specification of the release characteristics, designated a "source term," can consist of up to four Gaussian plumes that are often referred to simply as "plumes."

The radioactive materials released are modeled as being dispersed in the atmosphere while being transported by the prevailing wind. During transport, whether or not there is precipitation, particulate material can be modeled as being deposited on the ground. If contamination levels exceed a user-specified criterion, mitigating actions can be triggered to limit radiation exposures.

There are two aspects of the code's structure basic to understanding its calculations: (1) the calculations are divided into modules and phases, and (2) the region surrounding the facility is divided into a polar-coordinate grid. These concepts are described in the following sections.

MACCS is divided into three primary modules: ATMOS, EARLY, and CHRONC. The three modules correspond to three phases of exposure from an accident, defined as the emergency, intermediate, and long-term phases. The relationship among the code's three modules and the three phases of exposure are summarized below.

The ATMOS module performs all of the calculations pertaining to atmospheric transport, dispersion, and deposition, as well as the radioactive decay that occurs before release and while the material is in the atmosphere. It uses a Gaussian plume model with Pasquill-Gifford dispersion parameters. The phenomena treated include building wake effects, buoyant plume rise, plume dispersion during transport, wet and dry deposition, and radioactive decay and in-growth. The results of the calculations are stored for use by EARLY and CHRONC. In addition to the air and ground concentrations, ATMOS stores information on wind direction, plume arrival and departure times, and plume dimensions.

The EARLY module models the period immediately following a radioactive release. This period is commonly referred to as the "emergency phase." The emergency phase begins at each successive downwind distance point when the first plume of the release arrives. The duration of the emergency phase is specified by the user and can range between 1 and 7 days. The exposure pathways considered during this period are direct external exposure to radioactive material in the plume (cloud shine); exposure from inhalation of radionuclides in the plume (cloud inhalation); exposure to radioactive material deposited on the ground (ground shine); inhalation of resuspended material (resuspension inhalation); and skin dose from material deposited on the skin. Mitigating actions that can be specified for the emergency phase include evacuation, sheltering, and dose-dependent relocation.

The CHRONC module performs all of the calculations pertaining to the intermediate and long-term phases (not used in the current analysis). CHRONC calculates the individual health effects that result from both direct exposure to contaminated ground and from inhalation of resuspended materials, as well as indirect health effects caused by the consumption of contaminated food and water by individuals who could reside both on and off the computational grid.

The intermediate phase begins at each successive downwind distance point upon the conclusion of the emergency phase. The user can configure the calculations with an intermediate phase that has a duration as short as zero or as long as 1 year. In the zero-duration case, there is essentially no intermediate phase and a long-term phase begins immediately upon conclusion of the emergency phase.

Intermediate models are implemented on the assumption that the radioactive plume has passed and the only exposure sources (ground shine and resuspension inhalation) are from ground-deposited material. It is for this reason that MACCS2 requires the total duration of a radioactive release be limited to no more than four days. Potential doses from food and water during this period are not considered.

The mitigating action model for the intermediate phase is very simple. If the intermediate phase dose criterion is satisfied, the resident population is assumed to be present and subject to radiation exposure from ground shine and resuspension for the entire intermediate phase. If the intermediate phase exposure exceeds the dose criterion, then the population is assumed to be relocated to uncontaminated areas for the entire intermediate phase.

The long-term phase begins at each successive downwind distance point upon the conclusion of the intermediate phase. The exposure pathways considered during this period are ground shine, resuspension inhalation, and food and water ingestion.

The exposure pathways considered are those resulting from ground-deposited material. A number of protective measures, such as decontamination, temporary interdiction, and condemnation, can be modeled in the long-term phase to reduce doses to user-specified levels. The decisions on mitigating action in the long-term phase are based on two sets of independent actions: (1) decisions relating to whether land at a specific location and time is suitable for human habitation (habitability), and (2) decisions relating to whether land at a specific location and time is suitable for agricultural production (ability to farm).

All of the calculations of MACCS2 are stored based on a polar-coordinate spatial grid with a treatment that differs somewhat between calculations of the emergency phase and calculations of the intermediate and long-term phases. The region potentially affected by a release is represented with a (r, θ) grid system centered on the location of the release. The radius, r, represents downwind distance. The angle, θ, is the angular offset from north, going clockwise.

The user specifies the number of radial divisions as well as their endpoint distances. The angular divisions used to define the spatial grid are fixed in the code. They correspond to the 16 points of the compass, each being 22.5 degrees wide. The 16 points of the compass are used in the United States to express wind direction. The compass sectors are referred to as the "coarse grid."

Since emergency phase calculations use dose-response models for early fatalities and early injuries that can be highly nonlinear, these calculations are performed on a finer grid basis than the calculations of the intermediate and long-term phases. For this reason, the calculations of the emergency phase are performed with the 16 compass sectors divided into three, five, or seven equal, angular subdivisions. The subdivided compass sectors are referred to as the "fine grid."

Two types of doses may be calculated by the code, "acute" and "lifetime." Acute doses are calculated to estimate deterministic health effects that can result from high doses delivered at high dose rates. Such conditions may occur in the immediate vicinity of a nuclear facility following hypothetical severe accidents where confinement and/or containment failure has been assumed to occur. Examples of the health effects based on acute doses are early fatality, prodromal vomiting, and hypothyroidism.

Lifetime doses are the conventional measure of detriment used for radiological protection. These are 50-year dose commitments to either specific tissues (for example, red marrow and lungs) or a weighted sum of tissue doses defined by the International Commission on Radiological Protection and referred to as "effective dose." Lifetime doses may be used to calculate the stochastic health effect risk resulting from exposure to radiation. MACCS2 uses the calculated lifetime dose in cancer risk calculations.

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APPENDIX D
CONTRACTOR DISCLOSURE STATEMENTS

NEPA DISCLOSURE STATEMENT FOR PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE NUCLEAR FACILITY PORTION OF THE CHEMISTRY AND METALLURGY RESEARCH BUILDING REPLACEMENT PROJECT AT LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO (CMRR-NF SEIS)

CEQ regulations at 40 CFR 1506.5(c), which have been adopted by DOE (10 CFR 1021), require contractors who will prepare an EIS to execute a disclosure specifying that they have no financial or other interest in the outcome of the project. The term "financial interest or other interest in the outcome of the project," for the purposes of this disclosure, is defined in the March 23, 1981 guidance "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18026-18038 at Question 17a and b.

"Financial or other interest in the outcome of the project 'includes' any financial benefit such as a promise of future construction or design work in the project, as well as indirect benefits the contractor is aware of (e.g., if the project would aid proposals sponsored by the firm's other clients)," 46 FR 18026-18038 at 18031.

In accordance with these requirements, the offeror and any proposed subcontractors hereby certify as follows: (check either (a) or (b))

(a) ____X____ Offeror and any proposed subcontractor have no financial interest in the outcome of the project.

(b) __________ Offeror and any proposed subcontractor have the following financial or other interest in the outcome of the project and hereby agree to divest themselves of such interest prior to award of this contract.

Financial or Other Interests:

1.
2.
3.

Certified by:

Science Applications International Corporation

Signature

Patricia Garcia

Patricia Garcia, Contracts Representative

10 Feb 2011

Date

NEPA DISCLOSURE STATEMENT FOR PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE NUCLEAR FACILITY PORTION OF THE CHEMISTRY AND METALLURGY RESEARCH BUILDING REPLACEMENT PROJECT AT LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO (CMRR-NF SEIS)

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(b) __________ Offeror and any proposed subcontractor have the following financial or other interest in the outcome of the project and hereby agree to divest themselves of such interest prior to award of this contract.

Financial or Other Interests:

1.
2.
3.

Certified by: Los Alamos Technical Associates, Inc.

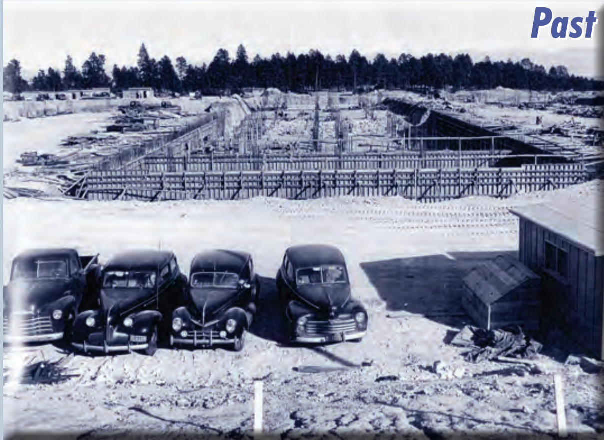
Daniel B. Carlson
Executive Vice President

Signature

Name

2/11/11
Date

DOE/EIS-0350-S1
August 2011



Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Volume 2
Comment Response Document

Conceptual Drawing CMRR Facility

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Reader's Guide

This Comment Response Document (CRD) portion of the *Final Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* consists of four sections:

- **Chapter 1 – Overview of the Public Comment Process**

  This section describes the public comment process for the *Draft CMRR-NF SEIS*; the format used in the public hearings on the draft SEIS; the organization of this CRD and how to use the document; and the changes made by the National Nuclear Security Administration (NNSA) to the *Final CMRR-NF SEIS* in response to the public comments and recent developments that occurred since publication of the *Draft CMRR-NF SEIS*.

- **Chapter 2 – Major Issues**

  This section presents summaries of the major issues identified from the public comments received on the *Draft CMRR-NF SEIS* and NNSA's response to each issue.

- **Chapter 3 – Public Comments and NNSA Responses**

  This section presents a side-by-side display of all of the comments received by NNSA on the *Draft CMRR-NF SEIS* and NNSA's response to each comment. The comments were obtained at four public hearings on the *Draft CMRR-NF SEIS* and via telephone, fax, e-mail, and U.S. mail.

- **Chapter 4 – References**

  This section contains the references cited in this CRD.

To Find a Specific Comment and NNSA Response

Refer to the "List of Commentors" immediately following the Table of Contents. This list is organized alphabetically by commentor name and shows the corresponding page number(s) where commentors can find their comment(s).

NNSA has made a good faith effort to interpret the spelling of names that were either hand-written on comment forms and letters, or transcribed from oral statements made during public hearings.

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Nancie Sailor
Lynn Sajdek
Myrna Sak
Mark Salamon
Joe Salazar
James Saley
Penelope Sallberg
Robert Salmon
Jennifer Salome
James Salter
Jeff Salvaryn
Daniel Samek
Cecelia Samp

Mich Sampery
Hugh Sanborn
Ralph Sanchez
Daniel Sanchez Sr.
Glen Sandberg
Kellie Sandberg
Morris Sandel
Ruth Sander
Karen Sanders
Robert Sanders
Sandy Sanderson
Allison Sandlin
Gustavo Sandoval
Diana Sandreson
Reisha Sandwell
Val Sanfilippo
Jane Sanguinetti
Will Santana
Roger Santerre
Marc Santora
Rocio Santos-Carrillo
David Saperia
Robert Sargent
Shawn Sargent
Sascha Sarnoff
Lake Sarovec
Dorian Sarris
Randi Saslow
John Satchell
Linda Satter
Jess Saucedo
Debra Saude
Ted Saufley
Annique Savage
Anne Sawyer
Catherine Sawyer
Jerry Sawyer
Margaret Sawyer
Jack Saylor
Kelley Scanlon
Charles Scarlott
Crystal Schachtell
John Schaechter
Robin Schaef
Ken Schaefer
Jennifer Schally
Joy Schary
Vivian Schatz
Jennifer Schauffler-Vircsik
Naomi Schechter
Robert Scheff
Coral Scherma
Craig Scheunemann
Nancy Schimmel
Arlette Schlitt-Gerson
E. S. Schloss
Diana Schmidt
Eric Schmidt
Fran Schmidt
Linda Schmidt
Marylou Schmidt
Richards Schmidt
Molly Schminke
Roselyn Schmitt
Hugh Schmittle
Bob Schneck
Andrew Schneider
Dan Schneider
Gerri Schneider
John Schneider
Lynn Schneider
Ray and Marlene Schneider
Martha Schneier
Randolph Schoedler
Janet Schoenhaus
Arthur Scholbe
Barabara Sue Scholl
Marie Schopac
Amy Schoppert
Ray Schraft
Myron Schrag
Peggy Schramm
Robert Schreib
Eugene Schreiber
Troy Schreiber
Darcy Schreiner
Shannon Schreur-Klein
Heidi Schubert
Julie Schubert
Susan Schuchard
Gail Schuessler
Nancy Schuhrke
Helen Schulte
Wm Schultz
Nancy Schulz
Maureen Schulze
Pat Schumacher
Kenneth Schumann
Peter Schutz
Ammiel Schwartz
Daniel Schwartz
Eleanor Schwartz
Jeremy Schwartz
Judy Schwartz
Kraig Schweiss
Mark Scibilia-Carver
Alan Scott
Joseph Scott
Kenna Scott
Louise Scott
Martha G. Scott
Mike Scott
Rachel Scott
Rachel Scott
Bisogno Scotti
Pam Scoville
Lawrence Scrima
Ryan Sdano
David Seaborg
Kathy Seabrook
Gerda Seaman
Barbara Searles
Julie Sears
Nancy Sears
LaRoy and Mary Seaver
Richard Sebastian-Coleman
Iria Cristina Sebastiao
Beth Seberger
Klara Seddon
Richard Sedivy
John Seeburger
Nox Seehafer
Sue Seehafer
Joshua Seff
Bob Segal
Kimberly Seger
Lisa Seitz
Susan Seitz
Andy Sekara
Susan Selbin
Robert Selles
Wendy Selnick
Elizabeth Seltzer
Rob Seltzer
Nicholas Selvaggio
Sr Mary Senderak
Carol Sepe
Stan Serafin
Bill Serrani
Brenda Serrano
Laurence Sessler
Stefan Seuleanu
Tamara Severns
Michael Sexton
Miriam Sexton
Marian Shaaban
Roxann Shadrick
Paula Shafransky
Aisha Shah
Elsy Shallman
Erik Shank
Georgia Shankel
Irving Shapiro
Jason "Great White" Shark
Virginia Sharkey
Robyn Sharpe
Rhonda Sharpee
Diane Shaughnessy
Donald J. Shaw
Peter Shaw
Sally Shaw
Namia Shea
Steven Shea
Gabriella Sheets
Deborah Shekter
Joan Shelby
Suzette Shelmire
David Shelton
Anna Shenk
Lindsey Shere
Jim Sheridan
Leslie Sheridan
Paul Sheridan
Wilma Sheridan
Mary Sherman
Vince Sherry
I. Sherwood
Jane Shevtsov
Kate Shield
Juli Shields
Roy Shigley
Aida Shirley
David Shirley
Janet Shirley
Rosemarie Shishkin
Celeste Shitama
Sandi Shocket
Clare Shomer
Denny Shoopman
Sterling Showers
Rick Shreve
Kenneth Shrum
Joseph Shulman
Sue Shulman
Jamie Shultz
Robin Shweder
Toula Siacotos
Jim Sickafoose
Ann Siegel
Larry Siegel
Sabrina Siegel
Suzy Siegmann
Roberta Siemering
Vikram Sikand
Aaron Sikes
Patricia Sikora
Rodger Sillars
Eva Silva
Margaret Silver
Stacey Silver
Ronald H. Silver, C.E.P.
John Simcox
Kathryn Simmons
Steve Simmons
Carol Simon
Carrie Simon
Violet Simon
Arline Simone
Jeanne Simonoff
Bette Simons
Michelle Simonson
Mark Simpson
Rusty Simpson
Louise Simrell
Joan Sims
Millicent Sims
Paul Sinacore
Evelyn Singer
Joan Singleton
Jan Sinnott
Nancy Ann Siracusa
John Siroki
Neal Sirwinski
Catherine Siskron
Joan Sitomer
James B. Sitrick Jr
Darcy Skarada
Lauremce Skirvin
Morgan Sky
Debbie Slack
Matthew Slade
Alice Slater
David Slater
Debra Slater
John Slawinski
Stephen Sleeper
Patricia Slevc
Barb Slitkin
Adam Sloan
Rick Sloan

Lauryn Slotnick
Mary Ann Smale
Gretchen Small
Marya Small
Victor Smalley
Andrew Smith
Anita Smith
Carlos Smith
Cathy Smith
David Smith
Dennis Smith
Donald and Eulalia Smith
Edwina Smith
Elizabeth Smith
Ellen Smith
Gaye Smith
Jerry Smith
Jim Smith
Joan Smith
Joanne Smith
Kellie Smith
Kevin Smith
Linda Smith
Lori Smith
Lucy Smith
Maria Smith
Mary Smith
Maxsonn Smith
Sara Smith
Stacey Smith
Stephen Smith
Virginia Smith
William Smith
Dia SmithRedman
Jerica Smythe
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Daivd Snope
Jean Snow
Vince Snowberger
Patricia Snowden
Ross Snyder
Sara Snyder
Marie Socarras
Katherine Perrault Sogolow, PhD
Arthur Soifer
Fred Sokolow
Rita Sokolow
John Solaperto
Jose Sologuren
B. Soltis
John Somers
Timmi Sommer
Kathryn Sonenshine
Rachel Sonnenblick
Sandee Sorel-LeDuc
Bill Sorem
Phoebe Sorgen
Rachel Soroka
Madeleine Sosin
Lilvia Soto
Derek Southard
Ada Southerlnad
Leela M. Southworth
Margaret Spak
Will Spangler
Galadriel Spanogians
Derek Spark
Rick Sparks
Harvey Spears
Sherry Spears
Daphne Speck Bartynski
Linda Spellman
Kathy Spera
Linda Sperling
Karen Spiegel
Joseph Spiezio
Jon Spitz
Ann Duvall Sponner
Karen Spradlin
Ann Sprayregen
Constance St Jean
Mary St. Michael
Elana Sue St. Pierre
Dan Stabel
Charlotte Stahl
Margaret Stahl
Ruth Stambaugh
Barbara Stamp
Jennifer Stanczak
Steven Standard
Phyllis Standish
Marsha Stanek
Jeffrey Stannard
Jack Stansfield
Anthony Stanton
Lucy Starbuck
Carol Stark
C. K. Starkweather
Tanai Starrs
Carrie Staton
Brian Stauffer
Georgia Stauffer
Barrie Stebbings
Matt Stedman
Carlene Steel
Eric Steffen
Karen Stegemann
Jill Steidl
Cletus Stein
Herbert Stein
Howard Stein
Pail Stein
George Steinitz
Barbara Steinmann
Diane Steitz
Dusty Stepanski
Jan Stephens
Jan Stephens
Robert Stephens
Susan Stephens
Carla Stern
Roberta Stern
Elizabeth Sterner
David Stetler
Lorene Stetzler
Robert Steurer
Barbara Stevens
Summer Stevens
Trish Stevens
Jon Stewart
Nancy Stewart
James Stewart Jr.
Karen Stickney
Joan Stiehl
Virginia Stiepock
Sophe Stine
Reggie Stiteler
Bob Stockwell
Ann Stoddard
Bob Stoddard
Ronna Stoddard
Paul Stoft
Diana Stokes
Mele Stokesberry
Maria Stoll
John and Martha Stoltenberg
James Stone
Lisa Stone
Mark Stone
Sonja Stone
William Stone
Emily Storar
Lauren Storm
Libby Stortz
Robert Story
Berrie Straatman
Veda Stram
Laurel B. Stranaghan
Stella Strand
Maleada Strange
Marisa Strange
Jewels Stratton
Gwen Straub
John Strauss
Nelda Street
Erik Streeter
Marjorie Streeter
Mary-Alice Strom
Grace Strong
Timothy Strong
Joel Strouss
Michael Stuart
Harriet Stucke
Maria Studer
Patrick Studt
Merlene Stuerzer-Rhodes
Sandy Stuhaan
Ernest Sturdevant
Robert Sucher
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Lynn Suits Lamkin
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Dr. Jay Sullivan
Linda Sullivan
Theresa Sullivan
Tom Sullivan
Robert Sullivan, MD
Dot Sulock
Jess Summers
Kathryn Summers
Autumn Sun
Jane Sun
Deborah Sunderman
Jane Sunshine
John Surdyk
Esther Surovell
Charlotte and Earl Sutherland
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John Sutton
Julie Svendsen
Bo Svensson
Lenore Swaim
Gerard Swainson
Dr. John Swang
Kristen Swanson
Michael Swanson
Stanley L. Swart
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Joe Swierkosz
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Edmund Swiger
Rev Crow Swimsaway, PhD
Matthew Swyers
Angee Sylvester
Cindy Symington
Joseph Szabo
Thaddeus Szostak
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Tom Talboom
Nicholas Talbot
Karen Talluto
Gabrielle Tao
Arthur Taplinger
Tim Tarbell
Ron and Paulette Tatum
Jennifer Taveras
Brigitte Tawa
Aileen Taylor
Carol Taylor
Joan Taylor
Kirk Taylor
Larry Taylor
Lee Ann Taylor
Megan Taylor
Timothy Taylor
Karine Tchakerian
Dave Te Tohunga
Kim Telgarsky
Robert Temple
Marlene Tendler
Lee and Charlotte Terbot
Alexis Terell
John Teriazzo
Walter Terrell
Michael Terry
Olivia Teter
Charles Thatcher
The Wojo Family
Lynn Thelen
Ann Thielen
Eva Thielk
David Thiermann

Thomas Thirion
Chip Thomas
Claudine Thomas
Connie Thomas
Cynthia M. Thomas
Debbie Thomas
Dennis Thomas
Elizabeth Thomas
Ellen Thomas
Karen Thomas
Ken Thomas
Stan Dorothy Thomas
Theodore Thomas
Paul Thomason
Amber Thompson
Dean Thompson
Mary Thompson
Patricia Thompson
Sally Thompson
Robert Thomson
Shelley Thoppil
Marion Tidwell
Catherine Tierney
Grace Tiessen
Peter Tijerina
Margo Tiller
Merritt Tilley
Charles Tillotson
Bernard Tilson
Don and Roberta Thurstin
Timmerman
Ray Timmermans
Lisa Timmermeyer
Rebecca Tippens
Lauren Titchener
Thomas Tizard
Kathy Tobey
Claudia Todd
Laurie Todd
Samuel Todd
Margaret Toews
Shirley Tofte
Mark Tokarczyk
Mark Tolley
Micheal Tomczyszyn
Kaori Tomioka
Andy Tomsky
William Toner
Barbara Tonsberg
Michael Toobert
Gloria Toolan
Laurence Topliffe
S. Torres
Kim Tosdale
Michael Toto
Patricia Townsend
Walter Townsend
Sarah Tracey
Kyle Tracy
William Trapnell
Kenneth Trauger
Dennis Treleven
Andrew Tremain
Karen Tremblay
Dennis Trembly
Irene Tremper
Stephanie Trevor
Gloria Trinka
Tia Triplett
Dorothy Tristman
Mike Trollinger
Brenda Troup
Paul Troyano
Hal Trufan
Leon Trumpp
Joel Trupin
Barabara Tucker
David Tucker
Karen Tucker
Gabriella Turek
Keith Turner
Michelle Turner
Mike Turner
Robert Turner
Rodgers Turrentine
Virginia Twinam Smith
Steve Tyler
Nathan Tyson
Aaron Ucko
LaVernre Uhte
Betty Ulbrich
Barbara Ulman
Vic and Barby Ulmer
Georja Umano Jones
Luci Ungar
Kris Unger
Julie Unruh
Sandra Uribe
John and Helene Vachet
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Karen Valentine
Valerie Valentine
Joseph Valentino
Arthur Valenzuela
Corey Valenzuela
Paulino Valenzuela
Vivian Valtri Burgess
Dona van Bloemen
Beirnda Van Cleave
Deborah S. Van Damme
Penny Van Dyk
Karen Van Fossan
Kristen Van Tassell
Dan Vanbuskirk
Eric Vance
Nat Vance
Kris Vancil
Roberta Vandehey
Liesbeth Vandenbosch
Craig Vanderborgh
Elizabeth Vandercen
Rachelle VanDerWyst
Marjorie Vangsness
Mike VanLandingham
Joan Vanoni
R. Vanstrien
Annette Varady
Dorothy Varellas
Joan Varney
Karen Varney
Leah Vasquez
Lisa Vaughan
Michael Vaughan
Ordell Vee
Elinor Vega
Anne Veraldi
Carolyn Verga
Evelyn Verrill
John Viacrucis
Mar Vial
Daniel Vice
William Vickstrom
Barbara Viken
Kenny Villacorta
Michele Vinz
Christina Virsida
Elizabeth Vitale
Nathan Vogel
Deborah J. Volk
Karl Volk
Peter Volkert
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Peter Von Ehrenkrook
Cynthia von Hendricks
Bill and Marilyn Voorhies
Barabara Voss
Pamela VourosCallahan
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Lillian Wade
Paul Wade
Rueben Wade
Eric Wagner
Frank Wagner
Heidi Wagner
Jim and Virginia Wagner
Richard Wagner
Robert Wagner
Sandra Wagner
Steven Wagner
Sam Wagstaff
Mare Wahosi
Linda Waine
Marlene Waite
Marie Wakefield
William Wakefield
George Walberg
Jeriene Walberg
Annamay Waldman
Joseph Waldner
Jason Waldo
Richard Waldo
Veneda Waldo
Charlotte Wales
Beverly Walker
Carol Walker
Carrie Walker
Christopher Walker
Craig Walker
Dan Walker
James Walker
Lynn Walker
Nancy Walker
Philip Walker
Joy Wall
Kathy Wall
Linda Wallace
Joshua Wallman
Hunter Wallof
Bennett Walls
Barbara Walrafen
Anita Walsh
Christopher Walsh
Dianne Walsh
Indi Walsh
Rev. James Walsh
Ricki Walsh
Sharon Walsh
Mark Walshin
V. Walson
Marilyn Waltasti
L. Walters
Donald Waltman
Gabrielle Wanner
Jacqiue Ward
Kelly Ward
Lonnie Ward
Michael Ward
Shelia Ward
Susan Ward
Lisa Warmbrodt
Barbara Warner
Carol Warner
Kelly Warner
Cecilia Warren
Charles Warren
Richard Warren
Susan Warren
Anita Wasserman
Constance Waters
Wayne Wathen
Brian Watson
John Watson
Larry Watson
Laurel Watson
Nate Watson
Gary Wattles
David Way
Lois Way
Paul Waybrant
Rick Wayman
Larry Wear
Dean Webb
Debra Webb
Susan Webb
T. Ed. and Marie Webb
Majill Weber
Zorina Weber
Susanne Wechsler
Eldon Wedlock
Rose Wedlund
Ardeth L. Weed
Grant Weherley
Jeff Weicher
Jeannine Weidner
Kenneth Weidner
Krystal Weilage
Sherry Weiland
Wendy Wein
Leslie Weinberg
Pete Weinelt

Nona Weiner
Deborah Weinischke
Diane Weinstein
Carol Weinstock
Edmund Weisberg
Jody Weisenfeld
Jennifer Weishaar
Stuart Weiss
Stephen Weitz
Krissy Weldch
Kate Wells
Fred Welty
Peter Wemyss-Gorman
Mary Lou Wendtland
Sophia Werbowy
Kirsten Wert
Nancy Weston
William Weston
Mike Weyand
Shirley Whalen
Joan Wharton
Cleveland Wheeler
Maureen Wheeler
Mary Whitaker
Allan White
Dave White
Edwina White
Judy White
Lois White
Sue White
William White
Pippa White Lawson
Paul Whiteley Sr.
Andy Whiteman
Judy Whitley
Rosemary Whitmore
Karen Wible
Roger Wiesmeyer
Amy Wiesner
Sunni Wigand
Marika Wilde
Laura Wilder
Roy Wilensky
John Wiles III
Janus Wilhelm
Doris S. Wilk
Yancy Wilkenfeldt
Jere Wilkerson
Richard Wilkins
Wayne Wilkinson
Lisa Willamson
Monica Willard
Laurie Willets
Angie Williams
Barbara Williams
Brian Williams
Bruce Williams
Danna Williams
Debbie Williams
Diane Williams
Donna Williams
Glen Williams
Janet Williams
Jayna Williams
Jeaneane Williams
Jesse Williams
Leonora Hall Williams
Mara Williams
Mary Williams
Michael Williams
Sally Laidlaw Williams
Terrie C. Williams
Trudy Williams
Wayne Williams
Maria Williamson
Shawn Williamson
Beverly Williamson-Pecori
Richard Willing
Jen Willis
Melodi Willis
Patricia Willis
Emily Willoughby
Judith Willoughby
Cassandra Wilson
Edith Wilson
Judith Wilson
Katrina Wilson
Ken Wilson
Sandy Wilson
Amy Windish
Laura Winds
Max Wineinger
Doug Wingeier
Gail Winter
Ann Witherspoon
Nancy Withington
Peggy Witsell
John Witte
Alice Wittenbach
Andreas Wittenstein
Chris Witting
Laura Wittke
Pauline Wittry
Carolyn Wlater
Andrew Woitkoski
Dot Wolf
Martin Wolf
Pauline Wolf
Kathlen Wolfe
Regina Wolfer
John Wolff
Jake Wolfhart
Mark Wolgamuth
Jean Wollenweber
Isaac Wollman
Cheryl Wong
Olivia Wong
Dennis Wonn
Erik Wood
Margaret Wood
Martha Wood
Virginia Wood
Sandra Woodall
Barbara Woodard
Bennie Woodard
Mary Woodconstable
S. Woodruff
Billy Woods
Linda Woodward
Ken Woolard
Alex Woolery
Nancy Woolley
Angela Wootton
Marjorie Worthington
Charles Wright
Charlie Wright
Jacob Wright
Joan Wright
John Wright
Maureen Wright
Sharon Wright
Betsy Wright Loving
Susan Wrightsman
Mark Wrobel
Katherine Wuthrich
Rowena Wyckoff
Kimberly Wyke
Mary Wylie
Artemas Yaffe
Susan Yamagata
Darlene Yamrose
Linda Yancy
Theresa Yandell
Susan Yarnell
Erin Yarrobino
Sonya Yeager-Meeks
Anthony Tsang Yee
Mary Yelich
Evangeline Yeun
Peter Yff
Jennifer York
Sarah and Mike Yost
Lucia You
David Young
Diana Young
Geoff Young
Sonya Young
Vincent Young
Charlene Yourke
Scott Yundt
Dawn Yunker
William Zaccagnino
Guy Zahller
Jonathan Zahos
Susan Zalon
Val Zampedro
Benjamin Zank
Jan Zanone
Caroline Zaworski
Susan Zega
John Zeigler
Tim Zemba
Zentura
Dennis Zerbo
Stephen Zerefos
Lynn Ziegler
Arlene Zimmer
Andrea Zinn
Adam Zion
Nancy Zorn
Bennet Zurofsky
Bettina Zwerdling

ACRONYMS, ABBREVIATIONS, AND CONVERSION CHARTS

ACRONYMS, ABBREVIATIONS, AND CONVERSION CHARTS

ATSDR	Agency for Toxic Substances and Disease Registry
BLM	Bureau of Land Management
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CMR	Chemistry and Metallurgy Research
CMRR	Chemistry and Metallurgy Research Building Replacement
CMRR-NF	Chemistry and Metallurgy Research Building Replacement Nuclear Facility
CRD	Comment Response Document
DBE	design-basis earthquake
DD&D	decontamination, decommissioning, and demolition
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
EA	environmental assessment
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
EPRI	Electric Power Research Institute
FR	*Federal Register*
g	gravitational acceleration
GTCC	greater-than-Class C
HEPA	high-efficiency particulate air filter
LANL	Los Alamos National Laboratory
LASG	Los Alamos Study Group
LCF	latent cancer fatality
LEED	Leadership in Energy and Environmental Design
MEI	maximally exposed individual
NAAQS	National Ambient Air Quality Standards
MDA	material disposal area
NEPA	National Environmental Policy Act
NMAC	New Mexico Administrative Code
NMED	New Mexico Environmental Department
NNMCAB	Northern New Mexico Citizens Advisory Board
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NRC	U.S. Nuclear Regulatory Commission
PC	Performance Category
PGA	Peak Ground Acceleration
P.L.	Public Law

PM_n	particulate matter less than or equal to *n* microns in aerodynamic diameter
PRS	Potential Release Sites
PSHA	Probabilistic Seismic Hazard Analysis
RAC	Risk Assessment Corporation
RCRA	Resource Conservation and Recovery Act
RLUOB	Radiological Laboratory/Utility/Office Building
RLWTF	Radioactive Liquid Waste Treatment Facility
ROD	Record of Decision
SASSI	System for the Analysis of Soil-Structure Interaction
SEIS	supplemental environmental impact statement
SPEIS	supplemental programmatic environmental impact statement
SSC	structures, systems, and components
SSHAC	Senior Seismic Hazard Analysis Committee
SSI	soil-structure interaction
START	Strategic Arms Reduction Treaty
SWEIS	site-wide environmental impact statement
TA	technical area
U.S.C.	*United States Code*
WIPP	Waste Isolation Pilot Plant

CONVERSIONS

METRIC TO ENGLISH			ENGLISH TO METRIC		
Multiply	**by**	**To get**	**Multiply**	**by**	**To get**
Area					
Square meters	10.764	Square feet	Square feet	0.092903	Square meters
Square kilometers	247.1	Acres	Acres	0.0040469	Square kilometers
Square kilometers	0.3861	Square miles	Square miles	2.59	Square kilometers
Hectares	2.471	Acres	Acres	0.40469	Hectares
Concentration					
Kilograms/square meter	0.16667	Tons/acre	Tons/acre	0.5999	Kilograms/square meter
Milligrams/liter	1 [a]	Parts/million	Parts/million	1 [a]	Milligrams/liter
Micrograms/liter	1 [a]	Parts/billion	Parts/billion	1 [a]	Micrograms/liter
Micrograms/cubic meter	1 [a]	Parts/trillion	Parts/trillion	1 [a]	Micrograms/cubic meter
Density					
Grams/cubic centimeter	62.428	Pounds/cubic feet	Pounds/cubic feet	0.016018	Grams/cubic centimeter
Grams/cubic meter	0.0000624	Pounds/cubic feet	Pounds/cubic feet	16,025.6	Grams/cubic meter
Length					
Centimeters	0.3937	Inches	Inches	2.54	Centimeters
Meters	3.2808	Feet	Feet	0.3048	Meters
Kilometers	0.62137	Miles	Miles	1.6093	Kilometers
Temperature					
Absolute					
Degrees Celsius + 17.78	1.8	Degrees Fahrenheit	Degrees Fahrenheit - 32	0.55556	Degrees Celsius
Relative					
Degrees Celsius	1.8	Degrees Fahrenheit	Degrees Fahrenheit	0.55556	Degrees Celsius
Velocity/Rate					
Cubic meters/second	2118.9	Cubic feet/minute	Cubic feet/minute	0.00047195	Cubic meters/second
Grams/second	7.9366	Pounds/hour	Pounds/hour	0.126	Grams/second
Meters/second	2.237	Miles/hour	Miles/hour	0.44704	Meters/second
Volume					
Liters	0.26418	Gallons	Gallons	3.78533	Liters
Liters	0.035316	Cubic feet	Cubic feet	28.316	Liters
Liters	0.001308	Cubic yards	Cubic yards	764.54	Liters
Cubic meters	264.17	Gallons	Gallons	0.0037854	Cubic meters
Cubic meters	35.314	Cubic feet	Cubic feet	0.028317	Cubic meters
Cubic meters	1.3079	Cubic yards	Cubic yards	0.76456	Cubic meters
Cubic meters	0.0008107	Acre-feet	Acre-feet	1233.49	Cubic meters
Weight/Mass					
Grams	0.035274	Ounces	Ounces	28.35	Grams
Kilograms	2.2046	Pounds	Pounds	0.45359	Kilograms
Kilograms	0.0011023	Tons (short)	Tons (short)	907.18	Kilograms
Metric tons	1.1023	Tons (short)	Tons (short)	0.90718	Metric tons
ENGLISH TO ENGLISH					
Acre-feet	325,850.7	Gallons	Gallons	0.000003046	Acre-feet
Acres	43,560	Square feet	Square feet	0.000022957	Acres
Square miles	640	Acres	Acres	0.0015625	Square miles

[a] **This conversion is only valid for concentrations of contaminants (or other materials) in water.**

METRIC PREFIXES

Prefix	Symbol	Multiplication factor
exa-	E	1,000,000,000,000,000,000 = 10^{18}
peta-	P	1,000,000,000,000,000 = 10^{15}
tera-	T	1,000,000,000,000 = 10^{12}
giga-	G	1,000,000,000 = 10^{9}
mega-	M	1,000,000 = 10^{6}
kilo-	k	1,000 = 10^{3}
deca-	D	10 = 10^{1}
deci-	d	0.1 = 10^{-1}
centi-	c	0.01 = 10^{-2}
milli-	m	0.001 = 10^{-3}
micro-	µ	0.000 001 = 10^{-6}
nano-	n	0.000 000 001 = 10^{-9}
pico-	p	0.000 000 000 001 = 10^{-12}

SECTION 1
OVERVIEW OF THE PUBLIC COMMENT PROCESS

1.0 OVERVIEW OF THE PUBLIC COMMENT PROCESS

This section of this Comment Response Document (CRD) describes the public comment process for the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)*, as well as the procedures used to respond to those comments. Section 1.1 describes the public comment process and the means through which comments on the *Draft CMRR-NF SEIS* were received. It also identifies the comment period and the locations and dates of the public hearings on the *Draft CMRR-NF SEIS*. Section 1.2 addresses the public hearing format. Section 1.3 describes the organization of this document, including how the comments were categorized, addressed, and documented. Section 1.4 summarizes the changes made to the supplemental environmental impact statement (SEIS) that resulted from the public comment process. Section 1.5 summarizes the next steps the National Nuclear Security Administration (NNSA) will take after publication of this *Final CMRR-NF SEIS*.

Comment Document – A communication in the form of a transcript from a public hearing, a letter, an electronic communication (e-mail, fax), or a transcription of a recorded phone message that contains comments from a sovereign nation, government agency, organization, or member of the public regarding the *Draft CMRR-NF SEIS*.

Comment – A statement or question regarding the draft SEIS content that conveys approval or disapproval of proposed actions, recommends changes, or seeks additional information.

1.1 Public Comment Process

NNSA prepared the *CMRR-NF SEIS* in accordance with the National Environmental Policy Act of 1969 (NEPA) and Council on Environmental Quality (CEQ) and the U.S. Department of Energy (DOE) NEPA regulations (40 CFR Parts 1500 – 1508 and 10 CFR Part 1021, respectively). An important part of the NEPA process is solicitation of public comments on a draft EIS and consideration of those comments in preparing a final EIS. NNSA distributed copies of the *Draft CMRR-NF SEIS* to those organizations, government officials, and individuals who were known to have an interest in the Los Alamos National Laboratory (LANL), as well as those organizations and individuals who requested a copy. Copies also were made available on the Internet and in regional DOE public document reading rooms and public libraries.

On April 29, 2011, NNSA published a notice in the *Federal Register* (76 FR 24018), concurrent with the U.S. Environmental Protection Agency's Notice of Availability (76 FR 24021), announcing the availability of the *Draft CMRR-NF SEIS*, the duration of the comment period, the location and timing of the public hearings, and the various methods for submitting comments. NNSA announced a 45-day comment period, from April 29 to June 13, 2011, to provide time for interested parties to review the *Draft CMRR-NF SEIS*. In response to requests for additional review time, the comment period was extended by 15 days, through June 28, 2011, giving commentors a total review and comment period of 60 days (76 FR 28222). In addition, because of the Las Conchas wildfire, NNSA also accepted and responded to all comments submitted after the June 28, 2011, deadline through July 31, 2011.

Three public hearings were held at regional venues near LANL from May 24 through May 26, 2011 (Los Alamos, Española, and Santa Fe, New Mexico). In response to requests for additional public hearings, NNSA held a fourth public hearing in Albuquerque, New Mexico, on May 23 (76 FR 28222), as well as informational meetings elsewhere. Newspaper advertisements related to the public hearings, including the Albuquerque hearing, began to run in local newspapers on May 8 and continued through May 19, 2011.

Table 1–1 lists the locations, estimated numbers of attendees, and number of commentors at each hearing. The attendance estimates are based on the number of registration forms completed and returned, as well as a rough "head count" of the audience.

Table 1–1 Public Hearing and Informational Meeting Locations, Attendance, and Comments Received

Location	*Date*	*Estimated Attendance*	*Number of Commentors*
Albuquerque, New Mexico	May 23, 2011	47	35
Los Alamos, New Mexico	May 24, 2011	39	11
Española, New Mexico	May 25, 2011	75	40
Santa Fe, New Mexico	May 26, 2011	70	34
Total		231	120

In addition, Federal agencies, state and local governmental entities, Native American tribal governments, and members of the public were encouraged to submit comments via the U.S. mail, e-mail, a toll-free telephone number, and a toll-free fax line. NNSA considered all comments, including those received after the comment period ended.

Although many e-mails were received through the e-mail address provided for receiving comments on the *Draft CMRR-NF SEIS*, there were approximately 4,500 submittals that were attempted, but not successfully received by that method. These submittals were initially transmitted by commercial e-mail servers capable of sending up to two million e-mails per hour, which were blocked for a period of time by DOE Internet security features. Paper copies of these comments were later transmitted to NNSA and were fully considered in preparing this *Final CMRR-NF SEIS*. Responses to these comments can be found in Campaign AA in Section 3 of this CRD. NNSA gave equal weight to spoken and written comments. **Table 1–2** lists the number of comment documents received by each method of submission.

Table 1–2 Numbers of Comment Documents Received by Method of Submission

Method of Submission	*Number of Comment Documents*
Toll-free telephone number	1
E-mail	1,185
Toll-free fax line	4
U.S. mail (including 4,522 signatories to Campaign AA)	4,555
Petition A (signed by 607 individuals) (Hand-delivered)	607
Input via computer at Public Hearings	2
Input via voice recording at public hearings	0
Total	6,354

Upon receipt, all written comment documents were assigned a document number for tracking during the comment response process. Oral comments received by toll-free telephone, as well as those transcribed by the court reporter or entered into a computer at the public meetings, were assigned document numbers. The transcript from each public hearing also was assigned a document number. All comment documents were then processed through the comment analysis and response sequence for inclusion in this document, and the originally submitted documentation was maintained. The text of each comment document was analyzed to identify individual comments, which were numbered sequentially. The comments were re-evaluated throughout the course of the response process as new information became available and as the *Final CMRR-NF SEIS* was developed. All comments received by NNSA through July 31, 2011, were considered in preparing this *Final* C*MRR-NF SEIS*. Comments determined not to be within the scope of the SEIS were acknowledged as such in this CRD. The remaining comments were then reviewed and responded to by policy experts, subject matter experts, and NEPA specialists, as appropriate. **Figure 1–1** illustrates the process used for collecting, tracking, and responding to the comments.

The comments and NNSA responses were compiled in a side-by-side format, with each identified comment receiving a separate response. All comments and responses are numbered with a comment identification number to facilitate matching a comment with its response

Integration of the comment response process into preparation of this *Final CMRR-NF SEIS* served to focus revision efforts and ensure consistency throughout the final document. The comments assisted in determining whether the alternatives and analyses presented in the *Draft CMRR-NF SEIS* should be modified or augmented; whether information presented in the draft SEIS needed to be corrected or updated; and whether additional clarification was necessary to facilitate better understanding of certain issues. Change bars are presented alongside the text in Volume 1 of this *Final CMRR-NF SEIS* to indicate where substantive changes were made and where text was added or deleted. Editorial changes are not marked.

1.2 Public Hearing Format

NNSA representatives were available to respond to questions and comments on the NEPA process and the *Draft CMRR-NF SEIS* at the hearings and informal meetings. A court reporter was present at each hearing to record the proceedings and prepare a transcript of the oral public comments. These transcripts are available on the *CMRR-NF SEIS* website at http://nnsa.energy.gov/nepa/cmrrseis.

The format used for each hearing included a presentation about the NEPA history of the CMRR project and a public comment period. The hearing opened with a welcome from the facilitator, followed by a presentation by an NNSA representative summarizing the evolution from the 2003 *CMRR EIS* to the *Draft CMRR-NF SEIS*. The facilitator next opened the public comment session, during which attendees were given an opportunity to provide oral comments. Following the public hearings, comments were identified from the transcripts of each hearing.

To facilitate participation from hearing attendees, NNSA provided a number of other ways to submit comments at each hearing: a court reporter to record individual comments, computers for entering comments into a computer database, a voice recorder to receive oral comments, and comment forms that could be received at the hearing or mailed by the commentor at a later date. For those unable to attend the hearings, NNSA indicated that comments could be submitted by U.S. mail, e-mail, a toll-free phone line, and a toll-free fax line.

1.3 Organization of this Comment Response Document

This CRD is organized into the following sections:

- Section 1 describes the public comment process, the public hearing format, the organization of this document, and the changes made to the *Draft CMRR-NF SEIS* before publication of the *Final CMRR-NF SEIS*.

- Section 2 presents summaries of major issues raised in the comments and NNSA's responses. Major issues include comment topics that required a detailed response or appeared frequently in the comments.

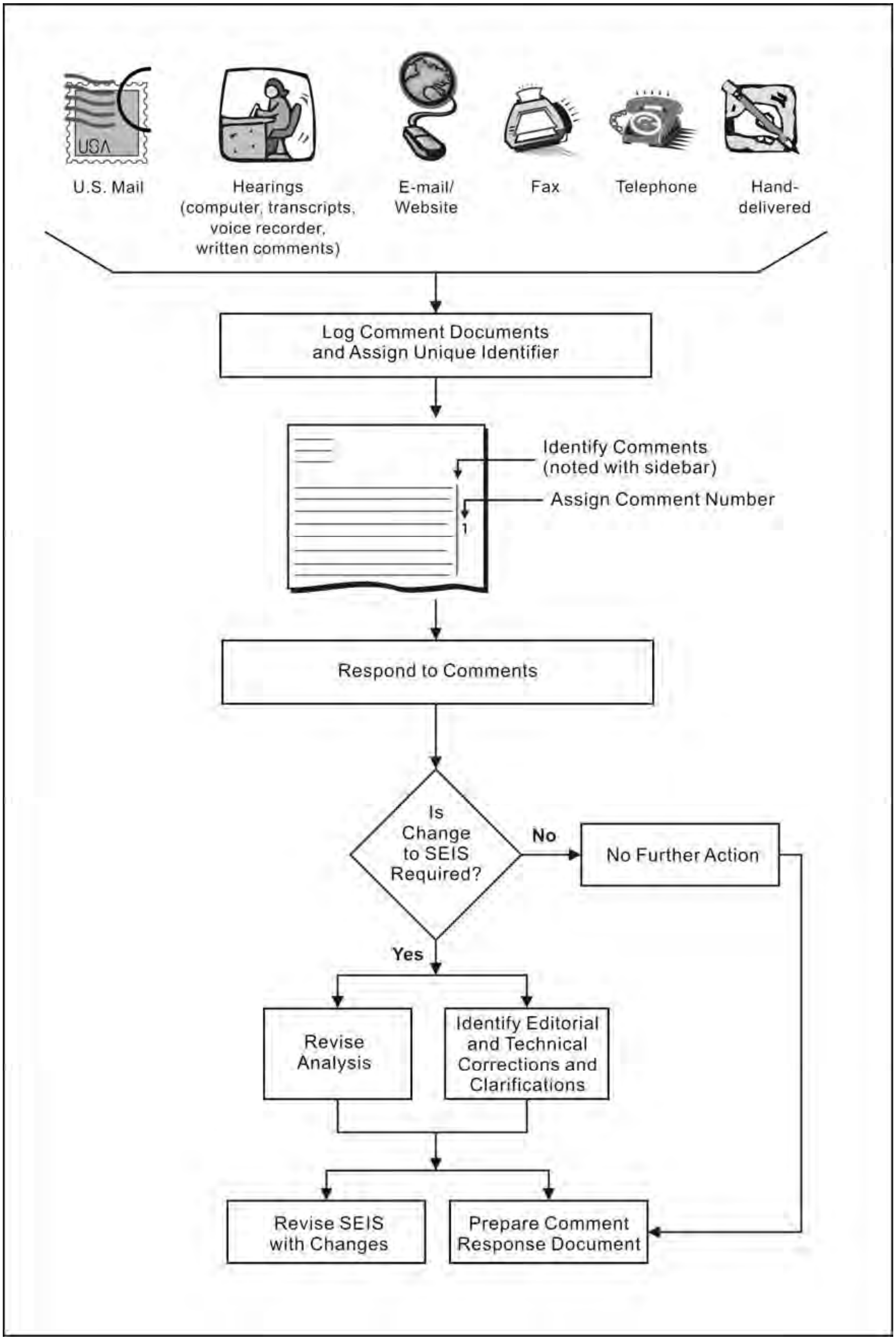

Figure 1–1 *CMRR-NF SEIS* Comment Response Process

- Section 3 presents transcripts of the oral comments, the computer-recorded comments and scanned copies of the comment documents received during the four public hearings, as well as additional comments received via U.S. mail, e-mail, toll-free telephone number, and toll-free fax line, side-by-side with NNSA's comment-specific responses.

- Section 4 lists the references cited in this volume.

1.4 Changes from the Draft Supplemental Environmental Impact Statement

In preparing this *Final CMRR-NF SEIS,* NNSA made revisions in response to comments received from other Federal agencies, state and local government entities, Native American tribal governments, and the public. In addition, the *Final CMRR-NF SEIS* was changed to provide additional environmental baseline information, include additional analyses, correct inaccuracies, make editorial corrections, and clarify text. The following summarizes the more-important changes made to the *CMRR-NF SEIS.*

Chapter 1, "Introduction and Purpose and Need for Agency Action," was updated to discuss the reason why the design of the Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) needed to be modified and how this change resulted in the need to develop an SEIS. Section 1.7, Public Involvement, was modified to summarize the comments received during the scoping period and to include information related to the public comment period and public hearings on the *Draft CMRR-NF SEIS*. Section 1.8, Changes from the *Draft CMRR-NF SEIS*, was added to summarize the changes that have been made. Section 1.9, Organization of this *CMRR-NF SEIS*, was modified to include a paragraph on the addition of this CRD as Volume 2 of this *Final CMRR-NF SEIS*.

Chapter 2, "Project Description and Alternatives," was updated to include additional project-related information. Section 2.4, Proposed Chemistry and Metallurgy Research Building Replacement Project Capabilities, was updated to include additional information on the analytical chemistry and materials characterization capabilities that would be present in the proposed facility. Section 2.6.2, Modified CMRR-NF Alternative, was updated to include additional information on the evolution of the Deep and Shallow Construction Options and to add propane to the construction requirements associated with this alternative. Propane would be used to heat the building during the winter months for 3 to 6 years. The addition of propane use resulted in small changes in the air quality and greenhouse gas impacts under this alternative, as shown in Chapter 4, Section 4.3.4, Air Quality and Noise, as well as changes in Section 4.3.3, Infrastructure. Information was added in Section 2.6.2 regarding the weight of the proposed CMRR-NF and the ability of the ground beneath the proposed facility to support this weight. A bus parking lot that would be constructed on the boundary of Technical Area 48/55 (TA-48/55) was also added to this alternative to provide room for buses from the proposed construction workers parking lot in TA-72 to remain near the proposed construction site. This change resulted in a small increase in land use for this alternative, as discussed in Chapter 4, Section 4.3.2, Land Use and Visual Resources. The description of potential power upgrades associated with this alternative was modified to indicate that the potential power upgrades from TA-5 to TA-55 to support the Modified CMRR-NF could be temporary or permanent, depending on future power requirements. This does not change the amount of land that may be affected, but could change the impacts from temporary to permanent, as indicated in Chapter 4, Section 4.3.2. Section 2.7, Alternatives Considered and Dismissed, was revised to describe in more detail the alternatives that NNSA considered and determined not to be reasonable for meeting the purpose and need for continuing Chemistry and Metallurgy Research (CMR) operations into the future. Section 2.7.4 was added to describe other alternatives and proposals considered and to explain why they were not analyzed further in this *CMRR-NF SEIS*. Section 2.10, Summary of Environmental Consequences, was modified to show how the environmental impacts associated with the Modified CMRR-NF Alternative and Continued Use of CMR Building Alternative have changed as a result of the changes discussed in Chapter 4. These changes are all relatively small and do not significantly change any of the environmental consequences presented in the *Draft CMRR-NF SEIS*. Section 2.10 has also been modified to include a summary of the intentional destructive acts sections of Chapter 4 (Sections 4.2.10.3, 4.3.10.3, and 4.4.10.3).

Chapter 3, Affected Environment, was updated in a number of sections. Information was updated in this *Final CMRR-NF SEIS* to reflect the most recent environmental data from the 2009 *SWEIS Yearbook* (LANL 2011d). Information was included in Section 3.2, Land Use and Visual Resources, and Section 3.7, Ecological Resources, on the Las Conchas wildfire. None of this information affects the impacts analyses presented in Chapter 4. Section 3.3 was updated to include new estimates of the amount of electricity available to LANL and Los Alamos County. The amount of peak power was reduced from 150 megawatts to 140 megawatts, reflecting the unavailability of two steam-driven turbine generators in TA-3 and increased power available from the Abiquiu Turbine Hydropower Project. These changes resulted in a change in the estimated amount of available electricity and are reflected in changes in the infrastructure sections in Chapter 4, Sections 4.3.3 and 4.4.3, for the Modified CMRR-NF Alternative and Continued Use of CMR Building Alternative, respectively, as well as in Section 4.6, Cumulative Impacts. The availability of electricity continues to cover expected requirements under any of the alternatives. However, peak demand could theoretically exceed available power under the Modified CMRR-NF Alternative, as discussed in the draft SEIS, but this is not expected to occur because actual LANL peak demand has consistently been lower than the estimate included in the 2008 *Final Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico* (DOE 2008a) and used in future forecasts. Additional information was included in this *Final CMRR-NF SEIS* to better describe the seismic studies and information developed for the proposed CMRR-NF site and LANL. This information is included in Chapter 3, Section 3.5, Geology and Soils, and includes information from the 2009 update (LANL 2009) to the 2007 probabilistic seismic hazards analysis (LANL 2007). An error in the reported vertical peak ground acceleration at LANL (0.3 *g*) was corrected to 0.6 *g*. This typographical error in the Executive Summary of the source document (LANL 2007) is not reflective of information presented elsewhere in the probabilistic seismic hazard analysis and was not used in the design of the proposed Modified CMRR-NF. The 2009 update changed the peak horizontal and vertical ground accelerations for the proposed CMRR-NF site in TA-55The updated factors were lower than the factors included in the 2007 analysis (0.47 *g* [gravitational acceleration] compared to 0.52 *g* for peak horizontal ground acceleration and 0.51 *g* compared to 0.6 *g* for peak vertical ground acceleration). The updated values were factored into the design of the proposed Modified CMRR-NF, as described in the *Draft CMRR-NF SEIS*, and do not change any of the analyses presented in this *Final CMRR-NF SEIS*. (This updated information was not available for unlimited public distribution when the draft SEIS was issued.) Information was included in Section 3.5, Geology and Soils, describing the volcanic history in the region. This information is factored into a revised discussion of potential accidents included in Appendix C. Section 3.9, Socioeconomics, was updated to include the latest information from the 2010 census on the region of influence and to show later unemployment data for the region. These changes did not result in any significant changes to the socioeconomics impacts sections in Chapter 4.

The 2010 census data were used to update the population projections to 2030 for total population, minority populations, and low-income population. As a result of slower than previously projected growth through 2010, the 2030 population projection for the 50-mile (80-kilometer) radius area surrounding TA-55 was reduced from about 545,000 to 511,000, and for the area surrounding TA-3, from about 536,000 to 502,000. Chapter 3, Section 3.10, Environmental Justice, was updated to include changes as a result of 2010 census data and to break the information down into smaller areas for evaluation (5-, 10-, and 20-mile [8-, 16-, and 32-kilometer] radii) in addition to the area within 50 miles (80 kilometers) of TA-55 and TA-3, as requested by the U.S. Environmental Protection Agency (EPA). The distribution of the population over the 50-mile (80-kilometer) radius was also updated using the latest census data, and more refined data were used (block data versus block group data; see Appendix B) to estimate the population within 10 miles (16 kilometers) of TA-55 and TA-3. As a result, more people are located closer to LANL (within 5 miles [8 kilometers]) than previously projected. The updated population projections and distributions were used to re-estimate the human health impacts associated with the No Action Alternative (2004 CMRR-NF) (Chapter 4, Section 4.2.10.2, for accidents); the Modified CMRR-NF Alternative (Section 4.3.10); and the Continued Use of CMR Building Alternative (Section 4.4.10), as well as the environmental justice analysis presented in Sections 4.3.11 and 4.4.11. The projected population doses from normal operations and the population accident doses changed slightly as a result of these changes, but not to the extent that the assessment from the draft SEIS would change. Similarly, the doses included in the environmental justice analysis changed, but not significantly. Additional information was included in Chapter 3, Section 3.11, Human Health, on historical health effects studies that have been done on the area surrounding LANL. This information is presented for background and does not affect any of the impacts analyses presented in Chapter 4.

In addition to the updates to Chapter 4 discussed above, other changes were made to Chapter 4 since the *Draft CMRR-NF SEIS* was issued. Information was added in Section 4.2.10.2 on the accident analysis that was performed for this *CMRR-NF SEIS*, as presented in Appendix C, as well as the changes in the accident analysis since the *Draft CMRR-NF SEIS* was issued. These changes do not significantly change the results, with the exception of significantly higher doses to the maximally exposed individual (MEI) and noninvolved worker under the seismically induced spill and fire accident at the CMRR-NF. In this *Final CMRR-NF SEIS*, this accident assumes that the earthquake initiates a radioactive material spill that is followed shortly thereafter by a fire, instead of both accidents occurring simultaneously, as was assumed in the *Draft CMRR-NF SEIS*. This change in assumptions results in a larger dose to the MEI and noninvolved worker because the radioactive materials associated with the assumed spill are not immediately lofted by the fire, which would lessen doses to persons close to the accident site. Additional discussion also was added to the accident analysis section for the Modified CMRR-NF Alternative (Section 4.3.10.2) regarding the potential for a wildfire affecting the facility and the effects of a seismic event that damages the CMRR-NF and other plutonium facilities in TA-55.

A special pathways consumer analysis was added to the environmental justice sections in Chapter 4, Sections 4.3.11 and 4.4.11, to show the potential impacts of the alternatives on individuals who may subsist on fish and wildlife caught within the vicinity of LANL. This analysis shows that special pathway consumers would not be exposed to significant risks as a result of implementing either of these alternatives. Section 4.6, Cumulative Impacts, was updated to account for newly acquired information about other projects in the vicinity of LANL, but these projects do not change the impacts discussions presented in this section.

Appendix B was updated to include a revised Section B.3, Air Quality, which factors in the requirement for propane use during construction at the Modified CMRR-NF and a revised number of emergency backup generators associated with the proposed CMRR Facility. Section B.5, Geology and Soils, was modified to eliminate Table B–9, which was related to the Modified Mercalli Intensity Scale. The Modified Mercalli Intensity Scale is not considered in the design of buildings. The design of the CMRR-NF is influenced by peak ground acceleration factors, as discussed in Chapter 3, Section 3.5. Section B.10, Environmental Justice, was modified to include a discussion of changes related to the use of 2010 census data in projecting the affected population to the year 2030, as well as an evaluation of a special pathways receptor.

Appendix C, Evaluation of Human Health Impacts from Facility Accidents, was updated to include a discussion of the Fukushima Daiichi Nuclear Power Plant accident (Section C.9) and wildfires and volcanic activity in the LANL vicinity (Section C.4.1) as they relate to the proposed action in this *CMRR-NF SEIS*. Section C.6 was added to discuss the potential for offsite land contamination in the event of a severe earthquake that results in the release of radioactive materials. Appendix C was also updated to include a discussion of the impacts of a severe earthquake on the multiple plutonium facilities in TA-55 should the CMRR-NF be built there (Section C.7). In the event of such an earthquake, it is expected that the consequences would be dominated by releases from the TA-55 Plutonium Facility, which is currently being upgraded to address seismic concerns.

The population consequences and risks shown in Appendix C have been re-estimated using the latest population projections and distributions, as discussed above. The estimated consequences for some accidents have changed as a result of these changes, but the risks associated with these accidents are not significantly different from those presented in the *Draft CMRR-NF SEIS*. The accident with the largest changes is the seismically induced spill, followed by a fire accident scenario for the CMRR-NF that was changed, as discussed above. This accident scenario was changed from that presented in the *Draft CMRR-NF SEIS* to reflect changes in the understanding of how it would progress and to present a more conservative accident scenario with respect to doses to the MEI and noninvolved worker.

1.5 Next Steps

No decision will be made any sooner than 30 days after EPA issues the Notice of Availability for this *Final CMRR-NF SEIS.* The decision will explain all factors considered by NNSA, including environmental impacts. The decision also will identify the environmentally preferred alternative or alternatives. If mitigation measures, monitoring, or other conditions are adopted as part of NNSA's decision, these would be described and summarized in the decision, as applicable, and would be included in the Mitigation Action Plan that would be prepared following issuance of the decision. The Mitigation Action Plan would explain how and when any mitigation measures would be implemented and how NNSA would monitor the mitigation measures over time to judge their effectiveness.

SECTION 2
MAJOR ISSUES

2.0 MAJOR ISSUES

Several topics raised by the public comments on the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* were of broad interest or concern or required a more detailed response than could be effectively presented in the side-by-side format in Section 3 of this Comment Response Document (CRD). The following topics were therefore characterized as major issues and are addressed in this section:

- Opposition to the Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF), Nuclear Weapons, and Nuclear Technology
- National Environmental Policy Act (NEPA) Process
- Programmatic Direction and Decisions
- Chemistry and Metallurgy Research (CMR) Mission
- Cleanup and Waste Management
- Seismic and Geologic Concerns
- Economic Impacts
- Nuclear Accidents
- Treaty Compliance
- Water Resources and Usage
- Alternatives Considered

2.1 Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology

Issue:

Many commentors indicated opposition to constructing a new nuclear facility such as the proposed CMRR-NF at Los Alamos National Laboratory (LANL); additionally, commentors suggested cessation of other nuclear activities at LANL. Commentors expressed opposition to nuclear weapons in general and pit production specifically, stating that nuclear weapons are unnecessary, immoral, unethical, or illegal, and should be eliminated. Some commentors also expressed their opposition to nuclear power.

Response:

These comments pertain to subjects beyond the scope of this *CMRR-NF SEIS* and also of the 2003 *Environmental Impact Statement for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR EIS)* (DOE 2003b) that is being supplemented, each of which was developed under the scope of analyzing the potential environmental impacts of reasonable alternatives for providing the analytical chemistry, materials characterization, and plutonium research capabilities required to support National Nuclear Security Administration (NNSA) mission requirements at LANL. U.S. national security policies and the mission of NNSA at LANL are not within the scope of these NEPA documents.

Since the end of the Cold War, the U.S. Department of Energy (DOE) and NNSA have made modifications and changes to site missions and activities to be consistent with national security policies and to reflect changes in the national nuclear security posture, including maintaining a smaller enduring stockpile. In October 2008, NNSA completed its *Complex Transformation Supplemental Programmatic Environmental Impact Statement (Complex Transformation SPEIS)* (DOE 2008b), which analyzed the potential environmental impacts of alternatives for transforming the nuclear weapons complex into a smaller, more-efficient enterprise that can respond to changing national security challenges and ensure the long-term safety, security, and reliability of the nuclear weapons stockpile. In a subsequent Record of Decision (ROD) issued in December 2008 (73 FR 77644), NNSA announced its programmatic decision to retain manufacturing and research and development capabilities involving plutonium at LANL. In support of these activities, LANL must continue to maintain existing nuclear capabilities, such as those performed at the existing CMR Building. These capabilities are required to ensure NNSA's ability to safely maintain and manage the Nation's nuclear stockpile. The proposed CMRR-NF would replace the aging CMR Building at LANL and provide NNSA with the continued capability to perform the analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Nuclear weapons pit production does not occur in CMR and would not occur in the proposed CMRR-NF facility. Please see Section 2.4 of this CRD and Chapter 1 of this *CMRR-NF SEIS* for more information regarding the CMR Mission and the programmatic direction and decisions that led to the need for the proposed CMRR-NF.

NNSA acknowledges that there is substantial opposition to the nuclear weapons mission. However, even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. The President and Congress continue to hold DOE, and specifically NNSA, responsible for ensuring the safety and reliability of the nuclear weapons stockpile. LANL is one of three national laboratories engaged in activities that are necessary for NNSA to meet this national security obligation. A cessation of these activities would be counter to national security policy as established by the President and Congress.

2.2 NEPA Process

Issue:

Commentors expressed a variety of concerns related to implementation of the NEPA process for this *CMRR-NF SEIS*. Comments addressed the type of document that NNSA should prepare, calling for a new environmental impact statement (EIS) rather than a supplemental environmental impact statement (SEIS). Commentors also expressed great concern for the dramatic increase in cost for the project. Many commentors cited the large overall project cost increase as a reason for NNSA to prepare a new EIS.

Commentors felt that the review process was inadequate, including the format of the public hearings. Concerns were expressed regarding the amount of time allowed to speak at the public hearings, a need for a more-detailed presentation, wider distribution of information, and the facilitator's role. In addition, commentors expressed frustration regarding their ability to access references. Commentors also expressed the opinion that NNSA does not pay attention to comments received from the public.[1]

[1] *Los Alamos Study Group (LASG) submitted a comment requesting that NNSA incorporate by reference all of its pleadings, evidence submitted, and both actual and prepared testimony in* Los Alamos Study Group v. Department of Energy, *Case No. 10-Civ-0760-JH-ACT. Much of this material involves legal contentions and does not comment on the draft CMRR SEIS. More important, LASG did not identify the specific issues in this very large amount of material to which it wanted NNSA to respond. Commentors are required to present their comments in a way that reasonably permits a reviewing agency to examine their contentions, and this comment by LASG does not do so.*

Response:

NNSA prepared this *CMRR-NF SEIS* as a result of changes in the design and construction of the CMRR-NF that were based on additional seismic and safety requirements and information. Council on Environmental Quality (CEQ) NEPA regulations and DOE implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a)-(b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. An SEIS may also be prepared to further the purposes of NEPA. NNSA determined that a supplement to the *CMRR EIS* was prudent and appropriate, even though the changes would affect the structural aspects of the building, but not its purpose.

In commissioning the SEIS, NNSA sought to understand the environmental consequences associated with the proposed changes in construction of the CMRR-NF from those analyzed in the 2003 *CMRR EIS* (DOE 2003b). These construction changes are needed as a result of updated seismic information and the integration of enhanced safety requirements – including more robust fire suppression systems – into the design concept of the CMRR-NF. Project costs were not germane to NNSA's decision to prepare a supplemental EIS, as project costs are not generally included as part of the environmental impact analysis and do not, in and of themselves, form the basis for compelling any level of NEPA review.

NNSA appreciates the value of public comments in the NEPA process. Consistent with the purpose and intent of NEPA and DOE's implementing regulations, public comments assist NNSA in determining the scope of the analysis to be included in a NEPA document, improving the analysis and range of alternatives evaluated, and making decisions regarding the action under consideration. Accordingly, NNSA has provided several forums and methods for public comment submittal.

As with previous LANL NEPA documents, the public hearings were held at regional venues near LANL (Los Alamos, Española, and Santa Fe, New Mexico). In response to requests for additional public hearings, NNSA also held a fourth public hearing in Albuquerque, New Mexico (76 FR 28222). Announcements for the May 23, 2011 Albuquerque public hearing were made in the *Albuquerque Journal* on May 8 and 19, 2011, along with a notice in the *Federal Register* on May 16, 2011. The format of the public hearings was intended to give all participants ample opportunities to comment. To accommodate each commentor that asked to speak, NNSA allocated time within the period scheduled for each meeting based on the anticipated number of speakers. After all registered speakers had a chance to speak, as time allowed, those who had not registered and previous speakers wanting to provide additional comments were given an opportunity to speak. To further facilitate participation from hearing attendees, NNSA provided a number of other ways to submit comments at each hearing: a court reporter to record individual comments, computers to directly input comments, a voice recorder to leave oral comments, and comment forms that could be filled in and submitted at the hearing or mailed by the commentor at a later date. For those unable to attend the hearings, NNSA indicated – in the April 29, 2011, *Federal Register* (76 FR 24018) notice announcing the availability of the draft SEIS; in letters transmitting the document to interested parties; in advertisements placed in Albuquerque, Santa Fe, Española, and Los Alamos newspapers; and again in the May 16, 2011, *Federal Register* notice (76 FR 28222) announcing the 15-day extension of the comment period – that comments could be submitted by U.S. mail, e-mail, a toll-free phone line, and a toll-free fax line. In response to reported issues with sending large volumes of e-mails through commercial mail servers and to facilitate the receipt of a petition, NNSA also coordinated with commentors to receive the comments by U.S. mail and to pick up a hard copy of the petition to ensure their receipt.

NNSA made the SEIS references available in five DOE public reading rooms located in New Mexico, as well as an additional room in Washington, D.C., throughout the comment period. Except where limited by copyright or security concerns, NNSA also made the SEIS references available on the Internet. These efforts were consistent with NNSA's past practices for other LANL NEPA documents.

NNSA considers every comment received at the public hearings or by U.S. mail, e-mail, or toll-free phone or fax lines during the public comment period. All comments submitted to NNSA during the public comment period, as well as late comments submitted after the June 28, 2011 deadline through July 31, 2011, were considered in preparing this *Final CMRR-NF SEIS.* Chapter 1, Section 1.8, of this SEIS addresses the changes that have been made in this SEIS between the draft and final documents.

During the public review and comment period for this *CMRR-NF SEIS*, NNSA received a large number of comments from the public. Two unexpected events occurred during the final days of the extended comment period for this *CMRR-NF SEIS* that affected some commentors: (1) some commentors attempting to transmit large volumes of e-mails through commercial mail servers had their comments blocked for a period of time by DOE Internet security features, and (2) the Las Conchas wildfire affected many in the immediate vicinity of LANL. In response to these events, NNSA reiterated its practice of accepting late comments to the extent practicable. NNSA also coordinated with affected commentors who informed NNSA of their problems to ensure the receipt of their comments through U.S. mail or through couriers sent to retrieve hard copies of their comments. All comments submitted to NNSA during the public comment period, as well as late comments, were considered in preparing this *Final CMRR-NF SEIS*.

2.3 Programmatic Direction and Decisions

Issue:

Commentors submitted a variety of comments regarding NNSA's programmatic direction of work performed at LANL and of the work that would be performed at the CMRR-NF. Specific comments included the following requests for NNSA: stop all work using radioactive materials at LANL; stop nuclear work related to weapons production at LANL; direct LANL scientists to perform other work, including research on alternative energy production sources and other energy research activities; or use congressional funding to meet various community needs, such as feeding the hungry, education, reducing the debt, or similar needs.

Response:

These comments pertain to subjects that are beyond the scope of this *CMRR-NF SEIS* and also of the 2003 *CMRR EIS* that is being supplemented, each of which was developed with the scope of analyzing the potential environmental impacts of reasonable alternatives for providing the analytical chemistry, materials characterization, and plutonium research capabilities required to support NNSA mission requirements at LANL. Examining congressional budget decisions, U.S. national security policies, or the mission of NNSA at LANL is not within the scope of these documents. National security and mission issues were more appropriately discussed in the *Complex Transformation SPEIS* (DOE 2008b) and the *Final Environmental Impact Statement for the Continued Operation of Los Alamos National Laboratory, Los Alamos, New Mexico,* issued in 2008 *(LANL SWEIS)* (DOE 2008a).

The *2010 Nuclear Posture Review Report* (DoD 2010), prepared by the U.S. Department of Defense in consultation with DOE and the U.S. Department of State, sets out the following five key objectives of current U.S. weapons policies and posture:

1. Preventing nuclear proliferation and nuclear terrorism
2. Reducing the role of U.S. nuclear weapons in U.S. national security strategy

3. Maintaining strategic deterrence and stability at lower nuclear force levels
4. Strengthening regional deterrence and reassuring U.S. allies and partners
5. Sustaining a safe, secure, and effective nuclear arsenal

The President and Congress expect DOE, primarily through NNSA, to play a central role in Objectives 1 and 5. These expectations are manifested by recommendations in the President's proposed annual budget and in congressional budget appropriations. DOE and NNSA have no discretion to use monies specifically provided by Congress for these objectives, at LANL or elsewhere, to meet community needs or to perform other non-mission-related activities.

NNSA has developed a comprehensive program of stockpile stewardship and management that maintains essential capabilities for stockpile safety and reliability. LANL is one of three national laboratories engaged in a broad range of technical activities that are necessary for NNSA to meet its national security obligations. LANL's role in enabling NNSA to fulfill its national security responsibilities defines the need for analytical chemistry and materials characterization capabilities at LANL, as described in Chapter 1, Section 1.3, of this SEIS, to support NNSA's core mission as directed by Congress and the President. This core mission specifically includes ensuring a safe and reliable nuclear stockpile. A cessation of these activities would be counter to national security policy as established by Congress and the President. Therefore, ending these activities is not considered in this SEIS.

2.4 CMR Mission

Issue:

A number of commentors suggested that a capacity study or a "plutonium infrastructure" study should be conducted. Commentors made a variety of comments related to the need for and function of the CMRR-NF. Commentors stated directly or implied that the CMR Building, the proposed CMRR-NF, or both, were the location at which plutonium pits or "triggers" are manufactured. Some commentors questioned the need for CMRR-NF, indicating that the production rate of 20 pits per year supported by current facilities and the number of pits in storage should be sufficient. Commentors also questioned the need for pit production, as pits are reported to have a greater-than-100-year lifespan. Other commentors asked what pit production rate the CMRR-NF was intended to support, and whether the increased size of CMRR-NF was related to a change in pit production.

Response:

The need for the CMRR-NF is not connected to a specific level of operations. The CMR Building and the proposed CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular production level of activity that would take place at the TA-55 Plutonium Facility. As described in Chapter 1, Section 1.2, of this *CMRR-NF SEIS*, NNSA's capability to perform a full range of analytical chemistry and materials characterization functions is currently constrained because of safety restrictions at the existing CMR Building; some types of materials characterization work have been suspended because of these limitations.

NNSA and the site contractor have considered a number of ideas for providing analytical chemistry and materials characterization at LANL, such as distributing the capabilities among multiple facilities at the site. Further discussion of this subject is included in Section 2.11, Alternatives Considered, of this CRD.

As discussed in Chapter 1, Section 1.5, of this *CMRR-NF SEIS*, NNSA is not planning at this time to revisit relocating the CMR capabilities to another site. Construction of a new CMRR-NF at LANL was previously evaluated in the *CMRR EIS* (DOE 2003b) and the 2008 *LANL SWEIS* (DOE 2008a). Regarding commentors' requests for a capacity study or a "plutonium infrastructure" study, the *Complex Transformation SPEIS* (DOE 2008b), which addressed transforming the nuclear weapons complex into a smaller, more-efficient enterprise was such a "plutonium infrastructure" study and addressed the location for manufacturing and research and development involving plutonium. NNSA announced its decisions to maintain the plutonium mission at LANL and to construct and operate the CMRR Facility in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644).

Some commentors believe that pits (which are sometimes erroneously called triggers) would be manufactured in CMRR-NF. As indicated in Chapter 2, Section 2.4, of this *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in CMRR-NF. Similarly, the manufacture of "triggers" for nuclear weapons does not occur in the CMR Building, nor would it occur in CMRR-NF. As stated above, the CMR Building and the proposed CMRR-NF analytical chemistry and materials characterization capabilities would continue to support the plutonium mission (stockpile stewardship, maintenance, and pit production).

Pit production capabilities, including analytical chemistry and materials characterization support for fabrication of new pits, modifying the internal features of existing pits, and recertifying or requalifying existing pits, are essential components of NNSA's stockpile stewardship mission. NNSA reviewed pit lifetime studies and concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a). It should be noted that plutonium aging is only one of the variables affecting nuclear weapon system reliability; other variables can control the overall life expectancy of nuclear weapon systems. It is not the purpose of this *CMRR-NF SEIS* to address a change in the level of pit production, and NNSA will not make a decision on the level of pit production in the ROD following completion of this *CMRR-NF SEIS*.

Commentors noted the increase in size of the Modified CMRR-NF over the structure analyzed in the 2003 *CMRR EIS* and under the No Action Alternative in this *CMRR-NF SEIS* (from 200,000 square feet [18,600 square meters] to 344,000 square feet [32,000 square meters] of usable floor space). The amount of laboratory floor space where analytical chemistry and materials characterization operations would occur would be about the same in both facilities (22,500 square feet [2,100 square meters]). The footprint of the Modified CMRR-NF (342 feet long by 304 feet wide [104 meters long by 93 meters wide]) is larger than that of the 2004 CMRR-NF (300 by 210 feet [91 by 64 meters]) due to the space required for engineered safety systems and equipment, such as an increase in the size and quantity of heating, ventilation, and air conditioning ductwork and the addition of safety-class fire-suppression equipment, plus the associated electrical equipment. This equipment added 42 feet (13 meters) to the building in one dimension. The addition of 94 feet (29 meters) in the other dimension was to provide corridor space for movement of equipment, to avoid interference between systems (mechanical, electrical, piping), and to allow enough space for maintenance, repair, and inspection, as well as mission support activities (maintenance shop, waste management areas, and radiological protection areas). Part of the increase in the building footprint over the 2004 CMRR-NF is due to thicker walls and other structural features required by current seismic and nuclear safety requirements.

2.5 Cleanup and Waste Management

Issue:

Commentors expressed a desire for funds to be spent on cleanup activities at LANL, rather than on a new nuclear facility. Commentors also expressed concerns that the Compliance Order on Consent (Consent Order) signed with the State of New Mexico would not be honored if a new nuclear facility were constructed at LANL. Commentors also were concerned about potential release sites such as Material Disposal Area (MDA) C, which could be in the vicinity of proposed construction activities, and were doubtful that the cleanup of MDA G in TA-54 would be implemented by December 31, 2015, as required by the Consent Order. Commentors were further concerned about the availability of disposal capacity for the projected waste quantities and questioned the practice of burying low-level radioactive waste in unlined pits.

Response:

Funding decisions on major Federal programs and projects at LANL, such as cleanup activities, are made by Congress and the President and are beyond the scope of this *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. It may be noted, however, that NNSA does not consider compliance with the Consent Order optional and is not linking Consent Order compliance with decisions about constructing and operating the proposed CMRR-NF. NNSA intends to continue conducting the environmental restoration program at LANL in parallel with its stockpile stewardship mission.

DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites at LANL that were known or suspected to be contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between the New Mexico Environment Department (NMED) and DOE. In 2005, DOE, the State of New Mexico, and the University of California (the management and operating contractor for LANL at the time) negotiated a Consent Order that governs cleanup efforts on the site (http://www.nmenv.state.nm.us/hwb/lanl/OrderConsent/03-01-05/Order_on_Consent_2-24-05.pdf). The Consent Order requires a site-wide investigation and cleanup to be conducted at LANL pursuant to stipulated procedures and schedules. The Consent Order also requires installation of wells, piezometers, and other subsurface technologies to provide site characteristic or environmental information; collection and investigation of sample data; and preparation and submittal of investigative reports for various potential release sites.

Chapter 2, Section 2.2.6, of the 2008 *LANL SWEIS* summarized progress made in environmental restoration since 1999 (DOE 2008a). Progress since publication of the 2008 *LANL SWEIS* is summarized in annual SWEIS yearbooks (LANL 2010a, 2011d). A total of 1,446 potential release sites are regulated under the Consent Order. From the March 1, 2005, effective date of the Consent Order through the end of 2009, the total number of corrective action sites remaining in the investigative process was reduced to 1,407 due to certificates of completion issued by NMED. In addition, over this same time period, corrective actions were completed for 94 sites, further reducing the number of corrective action sites remaining in the investigation process to 1,313. During 2008 and 2009, numerous investigation and remediation activities were conducted across the LANL site, including those for the Upper Mortandad Canyon Aggregate Area, Pajarito Canyon, MDA C, MDA G, and TA-21. The results of a Phase II investigation for MDA C, for example, concluded that, although further investigation activities were required, MDA C did not pose an unacceptable present-day risk to human health under the industrial and residential scenarios and to ecological receptors. During 2009, NNSA continued to monitor volatile organic compounds and hydrogen-3 (tritium) in subsurface pore gas at MDA G and submitted a revised Corrective Measures Evaluation Report to NMED addressing corrective remedy alternatives for MDA G.

Several buildings were demolished at TA-21 and contamination was removed (LANL 2011d). For more information on LANL's ongoing environmental restoration program, refer to the SWEIS yearbooks referenced above or the latest environmental surveillance report, which can be accessed at http://www.lanl.gov/environment/all/docs/reports/.

The CMRR-NF would be designed, constructed, and, along with RLUOB, operated to accommodate the projected waste volumes generated at the facilities. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives analyzed in this *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. The projected transuranic and mixed transuranic waste from operations at RLUOB and the proposed CMRR-NF would be disposed of at the Waste Isolation Pilot Plant (WIPP) or a similar facility. The waste volumes projected over the 50-year life of the new facilities would require up to 12 percent of the current unsubscribed WIPP disposal capacity. Decisions about disposal of any significant quantities of transuranic waste, however, would be made within the context of the entire DOE complex. It was assumed for analysis in the *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Impact Statement* (DOE 1997) that transuranic waste would be received at WIPP over about a 35-year period, through approximately 2033. However, because the total quantity of transuranic waste that may be disposed of at WIPP is statutorily established by the Waste Isolation Pilot Plant Land Withdrawal Act, the actual operational period for WIPP will depend on the volumes of TRU waste received at WIPP from all DOE waste generators. Waste minimization efforts across the DOE complex would extend the WIPP operating period. If waste disposal capacity at WIPP is no longer available over the operating life of the CMRR-NF, then any transuranic waste generated at the CMRR-NF or elsewhere at LANL would be safely stored until additional disposal capacity becomes available.

Sufficient disposal capacity for low-level radioactive waste is expected to be available. Low-level radioactive waste would be transported off site to the Nevada National Security Site or licensed commercial facilities for disposal or would be disposed of on site at Area G at TA-54. The methods being used to dispose of low-level radioactive waste at Area G are beyond the scope of this *CMRR-NF SEIS*. It may be noted, however, that Area G includes a 63-acre (25.5-hectare) site that contains MDA G, as well as waste disposal units that are not subject to the Consent Order and are currently used for low-level radioactive waste disposal. NNSA plans to close the entire 63-acre (25.5-hectare) site and to transition low-level radioactive waste management and disposal activities to other locations at Area G.

Sufficient offsite treatment, storage, and disposal capacity is expected for all the mixed low-level radioactive waste; chemical wastes; and solid waste projected from CMRR-NF and RLUOB construction and/or operations. Mixed low-level radioactive waste management capacity is available at offsite commercial facilities or the Nevada National Security Site. Hazardous, toxic, and solid waste management capacity is available at numerous permitted facilities located within New Mexico and nearby states. The projected liquid radioactive waste generation rates from CMRR-NF and RLUOB have been considered in LANL forecasts for annual receipt of liquid waste at the Radioactive Liquid Waste Treatment Facility (RLWTF), and no impacts on radioactive liquid waste treatment and discharge capacity are expected from their operation.

2.6 Seismic and Geologic Concerns

Issue:

Many commentors expressed concerns and made statements about geologic features of the area in general, as well as the proposed construction site specifically. Commentors noted that LANL is located in a seismic fault zone between a rift valley and a dormant volcano. Many commentors noted that the proposed construction site is near a geologic fault line or earthquake fault; some commented that it is about two-thirds of a mile from the fault, and others indicated that the CMRR-NF would be built on the fault. Commentors also referred to the area as "geologically unstable." Additionally, commentors stated that an updated probabilistic seismic hazard analysis (PSHA) from May 2007 showed a potential huge increase in seismic ground motion and activity. In addition to concerns expressed regarding the nearness of a fault and the potential for a seismic event, it was also noted that the construction site is located over a layer of soft volcanic ash that can be compacted by the building's weight. Commentors expressed opinions that building in a geologically unstable area or near a fault was a principal factor in the increased cost of the project. Some commentors expressed concern regarding the potential for volcanic activity in the LANL area.

Response:

All proposed new DOE facilities are required to be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards established to protect public and worker health and the environment. DOE Order 420.1B, *Facility Safety*, requires nuclear or nonnuclear facilities to be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards, including earthquakes. The order stipulates the natural phenomena hazards mitigation requirements for DOE facilities. DOE Standard 1020-2002, *Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities* (DOE 2002a), implements DOE Order 420.1B and provides criteria for the design of new structures, systems, and components (SSCs) to ensure that DOE facilities can safely withstand the effects of natural phenomena hazards.

Per DOE Order 420.1B, facility SSCs must be designed, constructed, and operated to withstand natural phenomena hazards and to ensure confinement of hazardous materials; protection of occupants of the facility, as well as members of the public; continued operation of essential facilities; and protection of government property. The facility design process incorporates an iterative interaction with safety analyses to categorize SSCs into performance categories based on natural phenomena hazard considerations. The role of the safety analyses in this iterative approach is to yield insights into the preventive and mitigative functions of the SSCs that are needed for determining appropriate natural phenomena hazard categories. Each SSC is assigned to one of five performance categories, depending on its safety importance, and each performance category is assigned a target performance goal in terms of the probability of unacceptable damage due to natural phenomena. The performance categories are:

- PC-0: SSCs for which no consideration of natural phenomena is necessary
- PC-1: SSCs for which the primary concern is preventing major structural damage, collapse, or other failure that would endanger personnel
- PC-2: SSCs meant to ensure the operability of essential facilities or to prevent physical injury to in-facility workers
- PC-3: SSCs for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment because radioactive or toxic materials are present and could be released from the facility as a result of that failure
- PC-4: SSCs for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment because radioactive or toxic materials are present in large quantities and could be released as a result of that failure

Specific criteria applicable to seismic hazard assessment are provided in DOE Standard 1023-95, *Natural Phenomena Hazards Assessment Criteria*, including criteria for determining ground-motion parameters for the design-basis earthquake (DBE) and criteria for determining the acceptable design response spectral shape. In accordance with DOE Standard 1020-2002, *Natural Phenomena, Hazards Design and Evaluation Criteria for Department of Energy Facilities,* the DBE spectra shall be a site-specific shape anchored to the appropriate ground-motion parameters. Sites containing facilities with SSCs in performance categories PC-3 or PC-4 must perform a site-specific seismic hazard assessment to determine the DBE; the assessment methodology must also be reviewed at least every 10 years. CMRR-NF is projected to contain SSCs with performance categories ranging from PC-0 to PC-3.

The potential seismic hazards at LANL have been the subject of numerous studies performed in the past 30 years. Since the early 1990s, it has been recognized that LANL is situated within and over the seismically active Pajarito fault system. The surface trace of the main Pajarito fault is the western boundary of LANL and dips underneath LANL, whereas subsidiary strands of the fault system, including the Rendija Canyon fault, extend into portions of LANL. The Pajarito fault system has been mapped in detail in the northern and western portions of LANL property, as well as in the vicinity of LANL. These detailed fault data include fault mapping from a variety of projects that were performed using conventional and high-precision geologic mapping, surveying, drilling, and trenching.

Previous geologic studies used methods such as aerial photographic lineament mapping, geophysical techniques, and fracture studies of rock outcrops in canyons to postulate that the southern ends of the Rendija Canyon and Guaje Mountain faults may continue as surface faults south of the Los Alamos townsite and trend through sensitive LANL sites. Ensuing site-specific studies at and near TA-55 used geologic field investigative techniques such as conventional geologic mapping, trenching, borehole studies, and innovative high-precision mapping to recognize vertical fault displacements so small that they would be overlooked and unmapped by conventional geologic mapping techniques. Results from these studies have greatly improved the understanding of the location of fault traces at LANL. These investigations found that the surface trace of the Rendija Canyon fault trends southerly to Los Alamos Canyon, where it splays southwesterly and extends into TA-3. The surface expression of the Guaje Mountain fault is not visible south of Pueblo Canyon (north of LANL). Additionally, other small faults are found in parts of LANL, as discussed below.

At TA-67 (south of TA-55), investigations found small, complex faults with activity older than 50,000 to 60,000 years and found no correlation between increased fracture density and surficial faulting. At TA-3, a fault with approximately 8 feet (2.4 meters) of displacement was identified. In contrast, around TA-55 and the CMRR-NF site, stratigraphic markers in the 1.25-million-year-old Bandelier Tuff were found to be continuous and high-precision total-station mapping showed no evidence of surface-rupturing faults. This is consistent with findings of a subsequent subsurface excavation at the CMRR-NF site that also used high-precision mapping techniques. Although some fractures and small faults were observed to be confined within units of the tuff, it was concluded that fractures and faults exposed at the proposed CMRR-NF site formed very shortly after emplacement of the tuff as a result of cooling and compaction, and the structures identified at the proposed CMRR-NF site pose no independent surface faulting hazard.

In 1991, a state-of-the-art comprehensive earthquake ground-shaking hazard evaluation of LANL was initiated using the latest information on the Pajarito fault system and ground-motion prediction models. One of the main purposes of the evaluation was to develop design-basis ground motions to be used at LANL in accordance with DOE Order 420.1 and DOE Standard 1020-2002 (previous revisions of the current documents). A significant program of geological, geophysical, and geotechnical investigations was performed to provide input into the probabilistic seismic hazard analysis. Based on the assessment of the seismic hazard, DBE ground motions were developed and adopted for use at LANL to evaluate existing facilities, as well as to design new facilities. After 4 years of investigations and analyses, a final report was issued in 1995 (Wong et al. 1995). This report was reviewed and approved by an internationally recognized external review panel and DOE, with oversight from the Defense Nuclear Facilities Safety Board (DNFSB).

DOE Order 420.1B stipulates that "[a]n NPH [natural phenomena hazards] assessment review must be conducted at least every 10 years and must include recommendations to DOE for updating the existing assessment based on significant changes found in the methods or data." In 2004, LANL began to look at the changes in the data and methods used in the probabilistic seismic hazard analysis process and decided to update the work that was last completed in 1995. This update was prompted in part by new paleoseismic information on the Pajarito fault system that had been collected since the 1995 study, as well as new advances in ground-motion prediction. In 2007, a final report describing and summarizing the updated evaluation was released (LANL 2007). The updated seismic hazard analysis indicated an increase in the expected level of ground motion for a DBE and provided a better understanding of the probable seismic behavior of various geological material layers occurring at LANL. As a result, DBE ground motions increased significantly over the 1995 values due largely to the use of updated site-specific ground-motion models and higher than previously recognized activity rates of the Pajarito fault system based on the new paleoseismic data. This report was also reviewed by an external review panel, DOE, and DNFSB. The report represented the best knowledge at the time and also included a thorough treatment of the uncertainties in the knowledge of both seismic sources, including the Pajarito fault system, and ground-motion prediction models as specified by U.S. Nuclear Regulatory Commission guidelines developed by the Senior Seismic Hazard Analysis Committee (NRC 1997). This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a DBE without major damage (see Chapter 2, Section 2.6.2, of this *CMRR-NF SEIS*).

The 2007 DBE ground motions for LANL were reviewed and revised in 2009 to incorporate very recent ground-motion prediction models (LANL 2009). The vertical ground-motion estimation was also re-evaluated using a more refined approach. The analyses were again reviewed and accepted by an external review panel, DOE, and DNFSB. The results of the 2009 update recommended a slight reduction in the DBE ground motions for TA-55 and the CMRR-NF construction site compared to the 2007 study.

DOE has been very proactive in the assessment of the potential seismic hazards at LANL, and the resulting design-basis ground motions for modified CMRR-NF reflect the best science and engineering available to date. That said, as future studies are performed on the geology and seismology of LANL, there may be new information that becomes available that should be evaluated for potential impacts on the assessment of the seismic hazards. In the 1995, 2007, and 2009 LANL seismic hazard evaluations, a concerted effort was made to properly capture the uncertainties in input parameters and, hence, it is anticipated that new information will not have a significant impact on the current assessment of the seismic hazard or DBE ground motions for LANL.

In addition to the assessment of seismic hazards at the CMRR-NF site, site-specific geotechnical investigations have been completed for both the Shallow Excavation Option and the Deep Excavation Option. A geotechnical report prepared for the Shallow Excavation Option provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy, which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation (Kleinfelder 2007a). The report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]). The proposed modified CMRR-NF would be designed and constructed in accordance with geotechnical data and recommendations provided in *Geotechnical Engineering Report, Chemistry and Metallurgy Research Facility Replacement (CMRR) Project, Los Alamos National Laboratory* and *Geotechnical Data Report, Chemistry and Metallurgy Research Facility Replacement (CMRR) Project, Los Alamos National Laboratory* (Kleinfelder 2007a, 2007b). Similarly, the Deep Excavation Option would be completed in accordance with recommendations resulting from the geotechnical reports, *Phase I Ground*

Modification Alternatives Feasibility Study, Chemistry and Metallurgy Research Replacement (CMRR) Nuclear Facility, Los Alamos National Laboratory, and *Work Plan, Excavation Support Design, Chemistry and Metallurgy Research Facility Replacement (CMRR) Project, Los Alamos National Laboratory* (Kleinfelder 2010a, 2010b). To meet the seismic design requirements, the Modified CMRR-NF would require large amounts of structural and reinforcing concrete and steel for the construction of the building's walls, floors, and roof.

In response to comments regarding volcanic hazards, additional information was included in the *Final CMRR-NF SEIS*. Appendix C was revised to discuss the recurrence rate of the volcanic hazards in the LANL region. While the recurrence rate for silicic eruptions is about 1×10^{-5} per year, this is not the same as the probability of future eruptions. While eruptions cannot be ruled out, it would be an unlikely event within the lifetime of the CMRR-NF. The greatest hazard from a volcanic event would be ash loading on the roof. Conservative damage ratios and respirable release fractions used to analyze seismic events would be applicable to a volcanic ash fall event. Chapter 3, Section 3.5.1, and Chapter 4, Section 4.3.5 were also revised to include information regarding volcanic hazards, as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c).

Some commentors submitted very technical comments regarding the seismic hazard of the LANL region as presented in the *CMRR-NF SEIS* and supported by the seismic hazard analyses (LANL 2007, 2009) and other geotechnical reports. Readers interested in these detailed technical comments and responses are referred to commentor numbers 241 and 315 in Section 3 of this CRD.

2.7 Economic Impacts

Issue:

A number of commentors were in favor of the project, expressing a view that construction of the new nuclear facility would be a source of increased jobs and revenue for the region at a time of economic hardship. Commentors were concerned that the construction industry in New Mexico has a high unemployment rate and has been particularly hard hit by the ongoing economic downturn.

Other commentors noted that the *Draft CMRR-NF SEIS* indicated there would be a small economic benefit in the region from the increased direct and indirect employment. Information from the *Draft CMRR-NF SEIS* was cited as evidence that the Modified CMRR-NF would not create a large number of jobs at LANL because virtually all of the workers would relocate to the facility from other locations on the site. Other commentors stated that more jobs would be created if, instead of building a new nuclear facility, the contamination at LANL were cleaned up or the resources at LANL were applied to other pursuits, such as alternative (green) energy.

Response:

Economic benefits connected with the continued operation of LANL are felt throughout the state of New Mexico. Although this *CMRR-NF SEIS* focuses on the four counties most directly affected due to the large number of LANL employees that reside in them (Los Alamos, Rio Arriba, Santa Fe, and Sandoval), benefits accrue throughout New Mexico, including the other counties of northern New Mexico, as the income of LANL workers spreads through the community and LANL purchases are filled through local businesses. The socioeconomics sections of this *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in this *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or Modified CMRR-NF Alternative would require a construction workforce for up to 9 years. These jobs are expected to result in the creation of a number of indirect jobs within northern New Mexico during the construction period. As stated in Sections 4.2.9

and 4.3.9 of this *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison with the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico.

As discussed in this *CMRR-NF SEIS*, operation of the new CMRR-NF, if built, is not expected to result in any increase in LANL employment. The people expected to work in the new facility would be transferred from other facilities at LANL where CMR-related activities are currently being accomplished (such as the CMR Building).

With regard to the opinion of some commentors that the funds needed to construct the CMRR-NF would be better spent on other efforts at LANL that may create more jobs, this subject is not within the scope of this *CMRR-NF SEIS*, which evaluates the environmental impacts of alternatives related to the construction and operation of the proposed CMRR-NF. Please refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for additional information related to this issue.

2.8 Nuclear Accidents

Issue:

Commentors expressed concerns that an accident similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. Some commentors expressed a belief that the Fukushima Daiichi Nuclear Power Plant accident was a result of the earthquake, not the tsunami, and that similar consequences could be experienced in the surrounding area if an earthquake were to occur at LANL. Specific comments referenced other nuclear accidents, such as those at the Rocky Flats Plant, the Church Rock spill, and the accidents at Three Mile Island and Chernobyl. Many commentors expressed a desire to ensure that similar accidents would not occur at LANL by not building the proposed CMRR-NF or by shutting down other nuclear facilities at LANL.

Response:

The types of radiological accidents that occurred at the Fukushima Daiichi Nuclear Power Plant, Three Mile Island, and Chernobyl all require a large source of energy that is produced from the fissioning of nuclear fuel. Nuclear reactors are carefully designed to harness the energy produced from a controlled nuclear reaction. Even with an accident that results in a nuclear reactor shutdown, as occurred at the Fukushima Daiichi Nuclear Power Plant and Three Mile Island Unit 2 nuclear power plant, thousands of megawatts of heat continue to be produced from the decay of the fission products for a number of days following shutdown. The generation of decay heat must be managed with the use of active cooling systems or the associated water will boil off and cladding around the radioactive materials can be damaged, resulting in the release of radioactive materials. At the Fukushima Daiichi Nuclear Power Plant, the earthquake and the subsequent tsunami eliminated the ability to provide active cooling to the reactors, resulting in failures of the reactor fuel cladding and the release of radioactive gases and volatile materials such as cesium to the environment.

The plutonium metal and oxide used at the existing CMR Building and in the proposed CMRR-NF cannot produce a nuclear reaction by themselves and do not produce the large amounts of decay heat associated with nuclear reactors, which require the use of active cooling systems. A number of factors related to the configuration of the material, purity, temperature, and density must be met before an uncontrolled nuclear reaction involving these materials could begin. The programs and facilities at LANL are designed to prevent such an accident from occurring. For facilities like the existing CMR Building, the proposed CMRR-NF, and the other plutonium facilities at LANL, the general safety strategy does not require active cooling systems to prevent major disasters, but instead requires (1) plutonium materials to be contained at all times within multiple layers of confinement designed to prevent the materials from reaching a critical mass and from reaching the environment in the event of an accident that could cause one or more layers of confinement to fail, and (2) energy sources that might disperse plutonium and threaten confinement to be minimized (for example, the proposed CMRR-NF would not have any natural gas pipelines in the facility).

This basic strategy means that operational accidents, including spills, impacts, fires, and operator errors, would not normally have sufficient energy to threaten the multiple levels of confinement that are always present within a plutonium facility. For plutonium facilities, the final layer of confinement is the building structure and the system of barriers and multiple stages of HEPA filters that limit the amount of material that could be released to the environment, as evaluated in the documented safety analysis process.

For plutonium facilities, the operational events that present the greatest threats to confinement are large-scale fires that, if they did occur, could present excessive heat and smoke loads on the building HEPA filter systems. The old Rocky Flats facilities (now torn down) did not have the modern safety systems that are in place at LANL for plutonium operations, and large fires did occur that resulted in plutonium releases to the environment. For modern plutonium facilities, such as the proposed CMRR-NF, the safety strategy is to prevent large fires by controlling their propagation at the source. This is done by limiting the energy sources and controlling the propagation with the use of combustible materials limits, fire barriers, and fire-suppression systems. For modern plutonium facilities, it is straightforward to design and operate the facilities such that the estimated frequency of any large fire within the facility would fall into the “extremely unlikely” category (less than one chance in a million) and would require multiple violations of safety procedures to introduce sufficient flammable materials to support such a fire. Any postulated large-scale fire in a modern plutonium facility would clearly be categorized as a “beyond-design-basis” event and is never expected to occur in the life of the facility.

Even in an earthquake so severe that major structural damage occurred throughout the Los Alamos area, including the plutonium facilities at LANL, the accident risks to the public from the plutonium facilities would be many times smaller than those posed by nuclear reactors and spent fuel pools like those at the Fukushima Daiichi Nuclear Power Plant. The proposed CMRR-NF may be damaged in an earthquake, but such an accident would not result in a nuclear reaction or nuclear explosion even if a fire were to occur. Unlike the Church Rock spill, flooding due to severe rain events or dam breaks does not present a significant threat to the plutonium facilities at LANL which are located on mesa tops.

Design-basis and beyond-design-basis earthquakes would have the potential to result in loss of offsite power. Except for the fire-suppression system, the safety-class structures, systems, and components at CMRR-NF are passive engineered features. The fire-suppression system is independent of the regional electrical power system for providing its safety-class function. CMRR-NF would have emergency backup generators that would automatically start if the offsite power source were interrupted. For plutonium facilities like the proposed CMRR-NF, a beyond-design basis earthquake could potentially result in substantial damage to containers, enclosures, and building structures and result in the release of material to the environment. It is possible that all offsite power, including backup power, could be unavailable for hours or days as a result of a beyond-design-basis earthquake. This could cause operational problems and hinder damage assessment and cleanup, but is not expected to result in the additional release of radioactive material to the environment solely because power is not available.

Plutonium materials stored within these facilities or being used in operations are generally stable and would not require cooling to keep them stable and prevent additional releases to the environment. Plutonium oxides that would be used at CMRR-NF behave much like sand and would require additional energy, such as high-pressure air or an explosion, to disperse them into the environment. The stability of plutonium metal varies, depending on the size of the piece. Fine metal turnings from a lathe oxidize immediately, much like iron does in sparklers. Larger pieces of plutonium metal oxidize slowly and form an oxide crust. The rapid oxidation of plutonium metal requires a large energy source, such as an external, fuel-fed fire. Otherwise, the oxidation is slow and self-limiting. Plutonium in liquid form that is present in CMRR-NF would typically be a plutonium nitrate. This liquid form would also be stable and would not be dispersed without the application of an external energy source to disperse it.

The only form of plutonium that generates enough heat to require long-term cooling is plutonium-238 heat sources in the form of ceramic oxide pellets. The vault that is part of the proposed CMRR-NF would not store plutonium-238, so this possible energy source would not be present.

2.9 Treaty Compliance

Issue:

Commentors expressed the concern that (1) pit production at LANL violates nonproliferation treaties, particularly the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the New Strategic Arms Reduction Treaty (New START), and (2) CMR activities would support pit production and are, therefore, illegal.

Response:

The United States is not in violation of the NPT or any other nonproliferation treaty to which it is a signatory. In 1968, the President signed the NPT, which Congress ratified in 1970. The NPT is a landmark international treaty designed to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy, and to further the goal of achieving both nuclear and general disarmament. Under the NPT, the parties agreed not to transfer nuclear weapons or other devices, or control over them, and not to assist, encourage, or induce nonnuclear states to acquire nuclear weapons; the parties also agreed to "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control" (Article VI). The treaty does not mandate disarmament or specific stockpile reductions by nuclear states, and it does not address actions of nuclear states in maintaining their stockpiles.

The United States has worked for many years to help establish an international security environment conducive to progress toward disarmament. The United States has also made significant progress toward achieving the nuclear disarmament goals set forth in the Preamble and Article VI of the NPT and has a strong record of compliance with its Article VI obligations. The United States has taken dramatic steps toward the goal of nuclear disarmament, including working to resolve destabilizing global and regional tensions; reducing its nuclear forces and nuclear weapons stockpile, through both unilateral and bilateral initiatives; and working cooperatively with allies and partners to reduce nuclear threats. The United States is also signatory to several treaties with goals of reducing the size of nuclear weapons arsenals. Most recently, in February 2011, the President signed the New START. Through this treaty, the United States and Russia agreed to further reduce their numbers of warheads and deployment systems within 7 years.

NNSA acknowledges that there is substantial opposition to the nuclear weapons mission. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Since the end of the Cold War, DOE has changed site missions and activities consistent with changing national security policies that reflect the new national security posture, including maintaining a smaller nuclear weapons stockpile. However, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Therefore, along with its obligations to reduce its nuclear weapons stockpile and promote the nonproliferation of nuclear weapons to nonnuclear states, the United States must also ensure that its nuclear weapons stockpile remains safe, secure, and reliable.

NNSA has developed a comprehensive program of stockpile stewardship and management that maintains essential capabilities for stockpile safety and reliability. The proposed CMRR-NF would replace the existing CMR Building at LANL and provide NNSA with the capability to continue with the analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Pit production would not take place in the proposed CMRR-NF. The proposed CMRR-NF would provide analytical chemistry and materials characterization capabilities critical to continuing to provide research in support of arms control technology development and other nonproliferation program activities that would help support treaty compliance activities.

2.10 Water Resources and Usage

Issue:

Commentors expressed concerns that construction and operation of the proposed CMRR-NF would use a significant amount of water that could be used for other purposes such as watershed restoration or irrigation. Commentors expressed concern about Los Alamos County rights to San Juan-Chama Transmountain Diversion Project water and how LANL may use that water. Commentors were also concerned about the impact the proposed CMRR-NF would have on surface-water and groundwater quality. These concerns included buried contamination migrating to groundwater and surface water and contamination being detected in a Buckman Well, the Rio Grande, and Elephant Butte, as well as the canyons that flow from LANL property to the river. Some commentors expressed concern that the project would violate the Clean Water Act.

Response:

NNSA takes its resource stewardship and conservation responsibilities seriously and continues to work with Los Alamos County to implement water conservation measures. Chapter 3, Section 3.3.4, of this *CMRR-NF SEIS* describes current water use and the water utility infrastructure for LANL and the Los Alamos region. NNSA is now a county water customer; as such, NNSA is billed and pays for the water it uses in accordance with a water service contract. For water-use planning purposes, NNSA has established a target ceiling quantity for water use equal to the water rights it still owns (542 million gallons [2,050 million liters] per year). In 2010, LANL used 412 million gallons (1,600 million liters) of water or about 76 percent of LANL's target ceiling quantity.

Water usage estimates related to the proposed CMRR-NF are included in Chapter 4, Sections 4.2.3 and 4.3.3. As discussed in these sections, the proposed CMRR-NF is expected to use up to about 5 million gallons (19 million liters) of water per year to support construction of CMRR-NF. If built, CMRR-NF, combined with RLUOB, would use up to 16 million gallons (61 million liters) of water per year to support facility operations. When the CMRR-NF requirements are combined with other LANL site-wide projected water requirements, LANL water usage would increase to up to 428 million gallons (1,620 million liters) annually or about 79 percent of LANL's target ceiling quantity. Chapter 4, Section 4.6, of this SEIS examines the cumulative impacts of this projected requirement along with Los Alamos County's estimated water use and estimates that, between LANL and the county, about 92 percent of the county's available water would be used annually.

Los Alamos County has completed the conversion of its water contract with the Bureau of Reclamation to access San Juan-Chama Transmountain Diversion Project water, which enables the county to access another 390 million gallons (1,480 million liters) annually. The county is studying options for making this water accessible to the county and its customers. LANL operational water demands are estimated to remain within DOE's current water use target ceiling quantity and, therefore, would not necessitate LANL using any of the San Juan-Chama Transmountain Diversion Project water that the county may access in the future.

As discussed in Chapter 3, Section 3.6, of this SEIS, LANL has an extensive groundwater and surface-water monitoring program in place to monitor the impact of LANL operations on water quality in the surrounding area. Groundwater monitoring has been performed at numerous locations within and around LANL for many decades. Monitoring locations include natural springs, drinking-water supply wells, shallow monitoring wells, intermediate-depth monitoring wells, and a variety of regional aquifer-monitoring well types.

LANL implemented the Outfall Reduction Program to reduce the total number of outfalls discharging to the environment. From January 1 through December 31, 2009, there were 15 wastewater outfalls (14 industrial outfalls and one sanitary outfall) at LANL that were regulated under a National Pollutant Discharge Elimination System (NPDES) permit that establishes limits on the volume and quality of the discharges. These outfalls are sampled weekly, monthly, or quarterly, as specified in the permit, to analyze effluents for compliance with permit limits. As part of a comprehensive LANL Outfall Reduction Project, the NPDES-permitted outfall serving the CMR Building in TA-3 (outfall #03A-021) was closed as of September 2010. All nonradioactive liquid effluent from the CMR Building is now sent to the Sanitary Wastewater Systems Plant.

The proposed CMRR-NF would not discharge nonradioactive liquid effluent directly to the environment, as discussed in Chapter 4, Section 4.3.6, of this SEIS. All nonradioactive liquid effluent would be sent to the Sanitary Wastewater Systems Plant, where the effluent would be treated and discharged in accordance with LANL's NPDES permit and in compliance with the Clean Water Act. All radioactive liquid effluent would be sent to RLWTF, where the effluent would be treated and discharged in accordance with LANL's NPDES permit and in compliance with the Clean Water Act. Released treated wastewater from NPDES-permitted outfalls at LANL rarely leaves the site (LANL 2011d).

LANL is performing monitoring of all wells required by the NMED Consent Order. This monitoring is conducted in accordance with an NMED-approved *Interim Facility-Wide Groundwater Monitoring Plan* (LANL 2006). As watershed monitoring continues, LANL, in consultation with NMED, will continue a phased approach to determining which wells are needed and in what locations to satisfy long-term monitoring needs. The process is established by and in compliance with the Consent Order. The annual LANL site environmental report provides detailed information on LANL's water quality monitoring program, including analytical results (see http://www.lanl.gov/environment/all/esr.shtml).

Contamination detected in various environmental media reflects worldwide fallout of radioactive particles from nuclear weapons testing; nuclear accidents such as Chernobyl; releases from industrial, commercial, medical, and household uses of chemicals and radionuclides; and releases from decades of activities at LANL. Samples from some locations show that contaminants are present on site at levels above applicable standards and guidelines. Elevated levels are investigated to confirm the validity of the results, determine the source and extent of the contamination, and evaluate needed control and cleanup actions.

To assess LANL's impact on the Rio Grande, samples of sediment, water, and foodstuffs are collected both upstream and downstream of LANL and tested for a variety of contaminants, including metals, organic compounds, and inorganic compounds. Natural stream flow and sediment-loading in the

Rio Grande are quite large compared with Los Alamos area streams. These factors reduce the possibility of identifying significant impacts from LANL in the Rio Grande. Daily average flow in the Rio Grande at the Otowi gage in 2009 ranged from about 500 to 5,900 cubic feet (14 to 170 cubic meters) per second. In contrast, the estimated combined flows from all the Los Alamos area canyons exceeded 5 cubic feet (0.14 cubic meters) per second only on July 30 (7 cubic feet [0.2 cubic meters] per second). Similarly, the average annual amounts of suspended sediment and bed sediment passing the Otowi gaging station have been calculated to be 1,000 and 100 times, respectively, the amount contributed by Los Alamos Canyon (LANL 2010b).

Surface-water samples were collected from three locations along the Rio Grande in 2009 for analysis of inorganic and organic chemicals and radionuclides. These locations are upriver of Los Alamos Canyon and LANL at Otowi Bridge, at the planned surface-water diversion site for Santa Fe at Buckman (at the mouth of Cañada Ancha, downriver from Los Alamos, Sandia, and Mortandad Canyons) and at the mouth of Frijoles Canyon in Bandelier National Monument (downriver from all canyons draining LANL) (LANL 2010b).

Nine radionuclides were detected in the Rio Grande water samples: radium-226, radium-228, thorium-228, thorium-230, thorium-232, tritium, uranium-234, uranium-235/236, and uranium-238. No screening levels were exceeded in these samples. All of these radionuclides are naturally occurring except for hydrogen-3 (tritium), which is associated with atmospheric fallout. The highest concentrations for radium-226, the thorium isotopes, and tritium were measured at Otowi Bridge, upriver from LANL, demonstrating non-LANL sources. For the uranium isotopes, the maximum concentrations downriver of the Otowi Bridge were 1 to 13 percent of the maximum concentrations measured upriver, also indicating little or no LANL impacts (LANL 2010b).

In a previous LANL press release about the concentration of plutonium in the sediments of Cochiti Reservoir, a comparison was made with the concentration in sediments in other reservoirs. It was stated that the "plutonium levels in Rio Grande Reservoir, located at the headwaters of the Rio Grande in Southern Colorado, and Elephant Butte Reservoir in southern New Mexico were similar to those found in Cochiti" (LANL 1997). The information further indicated that the levels were less than 0.1 percent of the screening action levels that would prompt further investigation.

As part of the monitoring program, in 2006, LANL staff collected groundwater samples from Buckman Well #1 as part of routine quarterly sampling that is conducted at three water-supply wells in the Buckman Well Field. This sampling is performed pursuant to a cooperative agreement with the City of Santa Fe. The samples were sent to an independent laboratory for radiochemistry analysis where it was reported that they detected plutonium-238 at a level about 3 percent of the DOE concentration guide for water ingestion. However, after reviews of legacy data by LANL staff and further discussions with the analytical laboratory, the laboratory has confirmed that computer analyses of the results were incorrect. The laboratory concluded that plutonium-238 was not present in the sample from Buckman Well #1. No further reports of plutonium detection have occurred since this occurrence in 2006 (LANL 2011e).

For more information on LANL's ongoing water monitoring program (surface water and groundwater), please see the latest environmental surveillance report, which can be accessed at http://www.lanl.gov/environment/all/docs/reports/.

2.11 Alternatives Considered

Issue:

Commentors expressed concerns regarding the alternatives in the *Draft CMRR-NF SEIS*. Some commentors thought the No Action Alternative should be a "no build" alternative that would involve ceasing CMR missions completely. Other commentors felt that the *Draft CMRR-NF SEIS* lacked sufficient alternatives because the No Action Alternative (2004 CMRR-NF) and Continued Use of CMR Building Alternative could not really be considered viable alternatives for implementation. They claimed that no "reasonable" alternatives to construction of the Modified CMMR-NF were considered in this SEIS. Commentors suggested a number of alternatives that should be included in the NEPA evaluation, including extensive upgrades to the CMR Building needed to sustain operations for another 20 to 30 years; use of RLUOB and/or the TA-55 Plutonium Facility for analytical chemistry and materials characterization activities, or relocating this capability to another NNSA site; and construction of a vault for secure storage of nuclear materials that would make sufficient space available in RLUOB and the TA-55 Plutonium Facility for CMR missions.

Response:

As indicated in Chapter 1, Section 1.3, of this SEIS, NNSA has a continuing purpose and need to provide analytical chemistry and metallurgical characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and not proceed with the CMRR-NF, such an alternative is not consistent with meeting NNSA's mission need nor does it reflect the status quo at LANL. The No Action Alternative in this *CMRR-NF SEIS* is based on the decision announced in the 2004 ROD for the original *CMRR EIS*. This is consistent with CEQ recommendations that, for proposed changes to an ongoing activity, "no action" can mean continuing with present plans (51 FR 15618). NNSA determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in design and construction of the CMRR-NF and has addressed alternatives consistent with previous analyses and decisions.

NNSA considered a series of alternatives in the development of this *CMRR-NF SEIS*. Chapter 2, Section 2.7, has been revised to describe these alternatives and why they are unreasonable and were not analyzed further in this *CMRR-NF SEIS.* These alternatives include alternatives suggested by commentors, including extensive upgrades to the existing CMR Building in whole or in part and construction of the CMRR-NF vault for use in conjunction with the TA-55 Plutonium Facility and RLUOB. As stated in Chapter 1, Section 1.5, of this *CMRR-NF SEIS*, NNSA does not intend to revisit decisions previously made concerning the level of operations at LANL, including the decision regarding maintenance of CMR operational capabilities to support critical NNSA missions. Additionally, after analyzing alternative locations across the NNSA National Security Enterprise Complex, NNSA selected LANL for the plutonium mission in the *Complex Transformation SPEIS* ROD. Thus, relocation of the CMR missions to another NNSA site was not reconsidered.

The proposal to construct a new facility at LANL to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2003 *CMRR EIS*, DOE considered the proposal to complete extensive upgrades to the existing CMR Building's structural and safety systems to meet current mission support requirements for another 20 to 30 years of operations and dismissed it from detailed analysis (DOE 2003b). Beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term structural viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive facility-wide upgrades originally planned for the CMR Building would be less technically feasible than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Structurally upgrading the entire structure to a significant extent would require construction of new walls and other building components adjacent to the existing ones that have utilities and structural building features already in place. In addition, the floors of the building would need to be significantly upgraded. This work would have to occur while continuing to provide mission-essential operations in the CMR Building using nuclear materials and hazardous chemicals.

The technical challenges of implementing extensive seismic upgrades to the entire CMR Building, as discussed in the 2003 *CMRR EIS,* remain and are exacerbated by the findings of the subsequent probabilistic seismic hazard analysis and the magnitude of the current DBE (LANL 2007). However, in response to comments regarding upgrading the CMR Building, NNSA has considered undertaking a more limited, yet intensive, set of upgrades to a single wing of the CMR Building, Wing 9, to meet current seismic design requirements so that this wing could be used for a limited set of Hazard Category 2 analytical chemistry and materials characterization operations. CMR Building operations and capabilities are currently restricted due to safety and security constraints. Although the limited Wing 9 upgrade would allow the current operational restrictions on material quantities to be relaxed somewhat so that larger quantities of special nuclear material could be used within the laboratories, the size of Wing 9 would limit the amount of laboratory space that could be developed to less than half of that required to meet NNSA's purpose and need for mission support work. After careful consideration of the complex engineering and operational issues, as well as the CMR Building site's seismic issues, this potential Wing 9 upgrade alternative was also determined not to be a reasonable alternative for meeting NNSA's purpose and need for action.

Construction of only the proposed CMRR-NF vault at TA-55 and use of the TA-55 Plutonium Facility was also considered by NNSA to determine whether that proposed combination, together with the planned future use of RLUOB, would provide adequate space for analytical chemistry and materials characterization operations over the long term. However, augmenting the existing TA-55 Plutonium Facility with only additional vault storage space would not alleviate the need for additional work space for analytical chemistry and materials characterization laboratory operations. Space does not exist in the TA-55 Plutonium Facility to support this work, and these operations cannot be accomplished within RLUOB because RLUOB is not able to support the level of radiological operations required to support the work needed. As discussed in Chapter 2, Section 2.5, of this *CMRR-NF SEIS*, RLUOB contains a radiological laboratory capable of handling less than Hazard Category 3 radioactive materials per DOE Standard 1027, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports* (DOE 1992). It is currently authorized to handle gram quantities of plutonium-239 equivalent. The CMRR-NF is being designed as a Hazard Category 2 facility capable of using kilogram quantities of plutonium-239 equivalent. This alternative was, therefore, not analyzed further in this *CMRR-NF SEIS*.

SECTION 3
PUBLIC COMMENTS AND NNSA RESPONSES

3.0 PUBLIC COMMENTS AND NNSA RESPONSES

This section presents a side-by-side display of the comments received by the National Nuclear Security Administration (NNSA) during the public comment period, as well as late comments received through July 31, 2011, on the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)* and NNSA's response to each comment. To find a specific commentor or comment in the following pages, refer to the "List of Commentors" immediately following the Table of Contents. This list is organized alphabetically by commentor name and shows the corresponding page number(s) where commentors can find their comment(s).

If a commentor provided comments through a postcard, form letter campaign, or petition, that commentor is referred to a copy of that postcard or form letter. This section only contains one representative copy of each postcard, form letter, or petition.

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Commentor No. 1: Tara Somerville

5/20/11

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544 or fax: (505) 667-5948); or e-mail : NEPALASO@doeal.gov

Deadline June 28, 2011

Dear Mr. Tegtmeier,

I am writing to express my opposition to the construction of new Chemical and Metallurgical Research Replacement - Nuclear Facility at Los Alamos National Labs. For the following reasons:

1-1

1. I am not in support of the construction of new nuclear weapons by the United States (or any country for that matter.) Their ability to cause such horrific killings and massive long-lasting environmental damage make their use an unwise, self-defeating choice and their construction an irresponsible waste of precious financial resources that could be used for the betterment of our state and nation, ~~such as~~ for instance for education programs & scholarship programs for underprivileged youth, research into renewable energy resources like solar and wind power.

1-2

2. I also have great concern about the proximity

CMRR-NF Hearings:

Mon. May 23, 5 to 9 p.m., Albuquerque Marriott, Salon F, 2101 Louisiana NE (Louisiana & 140) Albuquerque
Tues, May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos
Wed. May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola.
Thur. May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave, Santa Fe.
View or download SEIS document : http://www.nepa.energy.gov *or* http://www.nnsa.energy.gov/nepa/cmrrseis

1-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR-NF. NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

1-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 1 (cont'd): Tara Somerville

of the new building to a seismic fault TS zone (the Pajarito Plateau.) The recent and current tragedy surrounding the Fukushima nuclear power plant in Japan is a dreary case in point TS and reminder of the repercussions surrounding areas can suffer when nuclear facilities are built on shaky ground. **1-2 cont'd**

I have been a resident of Taos County since 2005 and a business owner since 2008.

Thank you very much for your time.

Sincerely,

Tara Somerville
PO Box 1784
El Prado, NM 87529
(575) 741-5103

Response side of this page intentionally left blank.

Commentor No. 2: Kenny Quinn

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667-5948); or e-mail : **NEPALASO@doeal.gov**. **Deadline June 28, 2011**

I am in complete agreement that a New (EIS) is needed & not a Supplemental (EIS) for the proposed CMRR-NF. The main reasons I am in support ~~opposed~~ to having a ~~the~~ New ~~Supplemental~~ (EIS) is the increased financial Cost, addressing the health & well being of people affected by the project, and finally the hidden cost of dealing w/ the nuclear waste. The initial (2004) EIS was assessed for a 500 million dollar project. Today 7 years latter the project cost has increased 9 times to a figure of 4.5 Billion. How can the original w/ a Supplement address the issues & concerns of a ~~pro~~ dangerous project of this magnitude & Scope. ~~Since~~ The initial EIS addressed concerns for the health & Saftey of people affected by the project. The 2004 EIS & a supplemental would not adequatly address the health & safety of the much larger proposed project. ~~When dealing with making a nuclear bomb, there are many steps (Process)~~ I am reminded of the ongoing legacy of the mining of uranium on the Navajo Reservation of New Mexico & Arizona. I have a nurse friend who provides health care to the uranium miners. These men are now in their 80's & suffer from such diseases as cancer & nurological diseases directly related to mining of uranium. In essence we are still paying for the health of these impacted humans from up to 50 years ago.

CMRR-NF Hearings:

Mon. May 23, 5 to 9 p.m., Albuquerque Marriott, Salon F, 2101 Louisiana NE (Louisiana & I40) Albuquerque
Tues. May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos.
Wed. May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola.
Thur. May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave. Santa Fe.
View or download SEIS document : http: www.nepa.energy.gov or http: www.nnsa.energy.gov/nepa/cmrrseis

2-1

2-1 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than a supplement to the *CMRR EIS*. NNSA determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 2 (cont'd): Kenny Quinn

I am curious to know if the EIS & Supplement is addressing the process & cost of dealing with disposal (Containment) of the nuclear waste produced & properly containing the nuclear waste of the old outdated, unsafe nuclear bombs. ***2-2***

Truly No action for the proposed project is the only Sane Sollution.

Kenny Quinn
P.O. Box 183
Carson, N. Mex 87517

2-2 NNSA notes the commentor's concern about the waste and containment issues surrounding nuclear weapons. The *CMRR-NF SEIS* does address the disposal of waste generated by facilities included in the alternatives evaluated in the SEIS. However, issues related to waste from retired nuclear weapons are beyond the scope of this SEIS.

Commentor No. 3: Joanne Forman

69 Maestas Rd\Ranchos de Taos NM 87557
23 May 2011

Sir:

This citizen is opposed to ANY expansion, including pit production, at Los Alamos. The last thing this world needs is more weaponry!! 3-1

As for the canard that it brings "prosperity" to our state, NM is, in many areas, down there with Mississippi. SHAME. 3-2

Sincerely,

Joanne Forman

3-1 NNSA notes the commentor's opposition to any expansion of operations, including pit production, at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the CMRR-NF SEIS, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, and Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

3-2 The socioeconomics sections of the CMRR-NF SEIS present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the CMRR-NF SEIS, construction of a new CMRR-NF under the No Action Alternative and the Modified CMRR-NF Alternative would require a construction workforce that would be needed for up to 9 years. As stated in the CMRR-NF SEIS, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico, as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 4: Leslie Elgood, CEO
New Mexico Community Capital

May 24, 2011

Mr. John Tegtmeier, CMRR-NF SEIS
U.S. Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road,
TA-3, Building 1410
Los Alamos, NM 87544

Dear Mr. Tegtmeier:

I am writing in support of the construction of the CMRR project primarily because of its critically important economic impact, particularly for the hard-hit New Mexico construction industry. The building industry in this state has been hit with an extended three year one-two punch, no new housing and no new commercial constructions. This makes the need for large construction projects critically important ones to job retention and creation. I think this is a project important for job creation and retention in a state with almost 8% overall unemployment and over 15% unemployment in parts of Northern New Mexico. **4-1**

Los Alamos National Laboratory has managed other projects of this size and have a track record of responsibility and inclusion.

LANL itself is crucial to New Mexico's economic health, creating a $2.9 billion impact on the state's economy and supporting about 24,000 jobs, according to the University of New Mexico.

Not only does the Lab create jobs, but they also support initiatives that promote economic development independent of the Laboratory. My organization has been a partner with the LANS Northern New Mexico Connect program. As a result, hundreds of small businesses in the northern and north-central part of the state have received high-end technical assistance.

Should you have any questions at all, please do not hesitate to call me.

Sincerely,

Leslie Elgood

Leslie Elgood
CEO

801 University Blvd. SE, Suite 102, Albuquerque, New Mexico • 87106 • 505.924.2820 • www.nmccap.org

4-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative and the Modified CMRR-NF Alternative would require a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico, as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 5: Darren M. Cordova, Mayor
Town of Taos, New Mexico

Darren M. Cordova, Mayor

Councilmembers:
Rudy C. Abeyta
A. Eugene Sanchez
Amy J. Quintana
Michael A. Silva

Daniel R. Miera, Town Manager
Abigail R. Adame, Assistant Town Manager

Taos Municipal Building
400 Camino de la Placita
Taos, New Mexico 87571
(575) 751-2000
Fax (575) 751-2026

Visit us on our Website at:
www.taosgov.com

May 5, 2011

John A. Tegtmeier
Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Mr. Tegtmeier:

The Town of Taos is in receipt of a form letter from your office, dated April 21, 2011, wherein it informs the reader that your office will be holding three public hearings on May 24, 25, and 26, in Los Alamos, Española, and Santa Fe (respectively). The purpose of these hearings is to discuss the findings of the environmental impact analysis contained within the Draft CMRR SEIS.

5-1 Given that the Town of Taos, as a representative agency of its citizens, considers the greater Taos community as an interested party, we respectfully request that a formal hearing, similar to those afforded to other communities in the affected region, be held within the Town of Taos. There is a considerable number of citizens in our area that have taken positions of interest on this matter, so much so that the Town Council took a similar position regarding its view of the SEIS pertaining to the Nuclear Facility portion of the CMRR Project by passing Town of Taos *Resolution 11-03* on January 25, 2011. In support of this request for a formal hearing in Taos, the Town is willing to provide the meeting space necessary to accommodate such a hearing.

We ask that your office seriously consider our request and hope you will grant said request as soon as possible to allow for adequate notification to our public. Please feel free to contact me or the Town Manager, Daniel Miera, directly at (575) 751-2003 should you have any questions or wish to discuss this request in more detail. Thank you.

Regards,

Darren M. Cordova
Mayor

"La Ciudad de Don Fernando de Taos"
Incorporated May 7, 1934

5-1 NNSA notes the Mayor's request for a public hearing on the *Draft CMRR-NF SEIS* in Taos, New Mexico. After further discussions with the Mayor, NNSA decided to hold an informational meeting in Taos. In addition to a poster session similar to that associated with a hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos.

Commentor No. 6: Scott Kovac, Operations and Research Director Nuclear Watch New Mexico

From: Scott Kovac [scott@nukewatch.org]
Sent: Monday, May 09, 2011 7:52 PM
To: Snyder, Roger; NEPALASO@doeal.gov
Subject: CMRR NF SEIS response
Attachments: CMRR SEIS extension request 5-5-11[1].pdf; townrequestforhearingcMRRseis.pdf

Mr. John Tegtmeier
CMRR-NF SEIS Document Manger

Roger Snyder
Deputy Manager Los Alamos Site Office

Gentlemen,

Thank you for adding the hearing in Albuquerque. I believe you will find this to be a worthwhile addition. (Your response Friday had to have been the quickest response I've ever received.)

This response is a preliminary response that does not represent all the groups, yet. But I wanted to respond as quick as I could with what I know.

Unfortunately, we find the lack of response to our request for a hearing in Taos, which your response on Friday did not even mention, unacceptable.

Since then, the Mayor of Taos, Mr. Darren M. Cordova, has requested a hearing in Taos. A copy of that letter is attached. As you stated in your reply, any environmental impacts from the proposed CMRR Nuclear Facility would most appreciably involve those in Northern New Mexico, where Taos is located. Please plan a hearing in Taos or at least let us know why not. *6-1*

The Nuclear Facility is a national issue. It is part of the national nuclear weapons complex. Hearings for the Complex Transformation and Greater than Class C EISs, to name a couple, were scheduled for DC, even though neither of these EISs covered facilities that were located in DC. These examples must be followed for the CMRR-NF SEIS.

The draft CMRR-NF SEIS is proving to be problematic to provide comments on.

For instance, we cannot find what is the plutonium pit production rate that the EIS is covering. Does this EIS cover a pit production rate of 20, 50, or 80 pits? This is an important question and not knowing the answer makes it impossible to compare *6-2*

6-1 After consideration of the request for a public hearing, NNSA held an decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with a hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. DOE determined that holding a public hearing in Washington, D.C., is not appropriate for the *CMRR-NF SEIS* because construction of the CMRR-NF is specific to LANL missions.

6-2 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF.

The waste generation rates shown in Chapter 4, Sections 4.2.12 and 4.3.12, are estimates for operating the 2004 CMRR-NF and RLUOB or the Modified CMRR-NF and RLUOB over a typical year assuming the facility accomplishes the type of work planned for this facility as described in Chapter 2, Section 2.4. As explained above, this work does not include the production of plutonium pits.

Problems with links to references that may have been experienced during the public comment period were corrected as soon as they were identified. In addition, the references were placed in a number of libraries in the area surrounding LANL as identified in Chapter 9 of the *CMRR-NF SEIS* and the Notice of Availability for the *Draft CMRR-NF SEIS* (76 FR 24018) published on April 29, 2011.

Commentor No. 6 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

this EIS to the 2003 CMRR EIS and other documents. We also do not know the what the waste volumes generated are based upon.

This question should have been a answered, for example, in "Table 434 Modified CMRR-NF Alternative ‹ Operational Waste Generation Rates Projected for Modified CMRR-NF, RLUOB, and Los Alamos National Laboratory Activities."

The second column, "Projected Modified CMRR-NF Generation Rate" has a footnote "a" that leads to the footnote - " From CMRR-NF Project and Environmental Description Document (LANL 2010d) and other sources (LANL 2011)."

(LANL 2010d) is a link -

http://nnsa.energy.gov/sites/default/files/seis/LANL%202010d%20CMRR-NF%20 Pro

ject%20Env%20Desc.doc - that leads to a page error.

And (LANL 2011) does not exist in the reference document list.

We are completing a survey of reference document issues, but problems like these are impeding the public comment process. And, really, the public comment timeframe should not start until all problems like these are taken care of. **6-2 cont'd**

We do appreciate your attempts to be sensitive to our workload concerns, but extending the comments period only 15 days, respectfully, does not help. (We have yet to see the Federal Register notice yet.) Having the GTCC and the CMRR-NF one day apart is an impossible request. We need to have only one EIS event per month. For instance, one set of hearings or one public comment period that ends is plenty of work load for one month.

Thank you for your consideration,

Scott

Scott Kovac

Operations and Research Director
Nuclear Watch New Mexico
551 W. Cordova Road #808
Santa Fe, NM, 87505
505.989.7342 office & fax
www.nukewatch.org

Commentor No. 7: Molly Price

From: Molly Price [hanunu8@live.com]
Sent: Wednesday, May 18, 2011 6:01 PM
To: nepalaso@doeal.gov
Subject: Comments

NO NUKES!!!! No more nuclear waste, no more nuclear weapons, no more nuclear facilities! NO MORE! *7-1*

NO MORE NUKES!!!!!

7-1 NNSA notes the commentor's opposition to nuclear waste, nuclear weapons, and nuclear facilities. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 8: R. Daniel Beavers

From: Danny Beavers [beaverslu412@hotmail.com]
Sent: Tuesday, May 24, 2011 10:24 AM
To: NEPALASO@doeal.gov
Subject: Proposed CMRR Project Los Alamos New Mexico

To whom it may concern,

I am sending this e-mail to show my support for the proposed CMRR project. I believe it is in the Nations best interest to move forward with this project for the following reasons, the current facility was built if memory serves in the early 1960s. If there were any changes made to the design, they were only to enhance the seismic up grades for the facility. After the recent issue in Japan I don't understand how anyone could object to that. *8-1*

Thank you,

R. Daniel Beavers
Business Representative
Plumbers and Pipefitters
Local Union No. 412

8-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

All proposed new facilities would be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment. DOE Order 420.1B (DOE 2005) requires that nuclear or nonnuclear facilities be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards, including earthquakes. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for a description of some of the recommendations regarding enhancement of the CMRR-NF to address issues related to nearby seismic faults.

Commentor No. 9: Angela Werneke

From: Angela Werneke [awerneke@earthlink.net]
Sent: Tuesday, May 24, 2011 8:21 PM
To: NEPALASO@doeal.gov
Subject: Public Scoping Comments: CMRR Project & Plutonium Pit Production
May 24, 2011

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
Department of Energy
Los Alamos Site Office
3747 West Jemez Road
Los Alamos, NM 87544

Re: Public Scoping Comments – Chemistry & Metallurgy Research Replacement (CMRR) Project as Part of the Plutonium Complex at Los Alamos National Laboratory (LANL)

Need for a New Environmental Impact Statement

Dear Mr. Tegtmeier:

I am writing to provide you with my scoping comments about the CMRR Project, which includes the Nuclear Facility (NF), the proposed addition to LANL's nuclear weapons production complex. The alternatives proposed in the 2003 final CMRR environmental impact statement (EIS) are no longer applicable today. It's time to start over and re-examine the purpose and need for the Project by preparing a new EIS. Further, it is premature to begin the scoping process when Secretary Chu has asked for an independent expert committee to review the need for the CMRR-NF. *9-1*

The Costs of Trying to Build a Plutonium Pit Production Complex in a Geologically Unstable Area Are Just Too High - The total original estimate for the CMRR Project, including the recently completed $363 million Radiological Laboratory Utility and Office Building (RLUOB), was around $600 million in 2004. The current estimate is $4.5 billion. The estimate, no doubt, will continue to climb. *9-2*

LANL is located between a rift valley (the Rio Grande in that area) and a volcanic range (the Jemez Mountains) in a seismic fault zone (the Pajarito Plateau). An updated seismic hazards analysis was published in May 2007. It showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the over $3 billion in cost estimate increases since 2008 are due to efforts to address the increased seismic hazards. DOE must analyze whether $3 billion *9-3*

9-1 NNSA notes the commentor's support for the preparation of a new EIS rather than a supplement to the *CMRR EIS*. NNSA determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information. In regards to an "independent expert committee" reviewing the need for the CMRR-NF, in November 2010, the Secretary of Energy invited experts to provide him with their individual assessment of program requirements for the CMRR-NF and the Uranium Processing Facility at the Y-12 National Security Complex in Oak Ridge, Tennessee (DOE 2010). In addition, the U.S. Department of Defense is conducting a review, with support from an independent group of experts, to consider safety, security, and program requirements and to develop an independent assessment of estimated cost range data for the CMRR-NF and the Uranium Processing Facility. Analyses and recommendations from these independent assessments, information in the *CMRR-NF SEIS*, and other programmatic considerations will be weighed as NNSA moves toward a final decision on the construction and operation of a CMRR-NF.

9-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

9-3 Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior

Commentor No. 9 (cont'd): Angela Werneke

is too high a premium to pay for a new NF. In order to address these increased seismic hazards, DOE now plans to excavate 225,000 cubic yards of earth under the proposed NF and fill the hole with concrete. DOE must address the following questions: Is the surrounding geology robust enough to support all that concrete? Would a seismic event cause the concrete "slab" to sink or shift? ***9-3 cont'd***

Cleanup of the Existing Mess Must Be the Priority – Not a New Nuclear Facility - DOE made a commitment to clean up the legacy waste sites at LANL when it signed the Consent Order with the New Mexico Environment Department on March 1, 2005. The Order requires cleanup of certain sites by December 31, 2015, including the Area G dump site at Technical Area 54. Construction activities for a new NF will interfere with cleanup activities, including those at the nearby Material Disposal Area C. DOE must make compliance with the Order the priority – not a new NF. ***9-4***

New Alternatives Are Required – DOE must return to the drawing board in order to develop more alternatives, including not building the NF; stop operations at the old, dangerous CMR Building; and conduct a "capacity study" to determine whether the existing facilities – as they have since 1999 when DOE limited plutonium pit manufacturing to 20 per year - can be used instead of building the proposed NF. All analyses of alternatives must incorporate the new 200,000 square foot RLUOB in the review. Operations for the RLUOB are scheduled to begin in less than two years. ***9-5***

<u>Requisite Analyses for the New Environment Impact Statement</u>:

1. Environmental Justice – Both Economic and Ethnicity Analyses Must Be Done - Los Alamos County is one of the richest counties in the U.S.A. It is surrounded by some of the poorest and most ethnically diverse counties in the country. Therefore, shipping any type of waste to anywhere else is an inherent environmental justice issue. Such analyses must be completed in the new draft EIS. ***9-6***

2. Health Effects for Those Most at Risk - Many federal standards for protection of human health, such as limits on emissions from the proposed CMRR-NF industrial stacks, are based on "Reference Man," a hypothetical Caucasian male 20 to 30 years old weighing 154 pounds. All analyses must address the risk to a pregnant woman farmer, her fetus, and her other children under age 18, rather than Reference Man. As a matter of reproductive and environmental justice, the most potentially vulnerable human beings must be protected. Such analyses must be completed in the new draft EIS. ***9-7***

to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

9-4 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

9-5 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

9-6 Chapter 3, Section 3.10, provides a description of the composition of the 50-mile (80-kilometer) region of influence surrounding LANL, including minority and low-income populations. Analysis of specific impacts to populations in close proximity of LANL at additional radial intervals of 5, 10, and 20 miles (8, 16, and 32 kilometers) has been added to the *Final CMRR-NF SEIS* in Chapter 3, Section 3.10, and Chapter 4, Sections 4.3.11 and 4.4.11. Impacts from transportation are presented in Chapter 4, Sections 4.2.13.1, 4.3.13.1, and 4.4.13.1. Both radiological and nonradiological risks from transportation would be small under all alternatives.

9-7 The radiological dose and impact estimates are based on national and international standards that do consider both sexes and a range of ages. These techniques were developed by the world's experts to try to accurately address the potential impact on the population as a whole from radiation. These techniques are considered appropriate for use in EISs.

Commentor No. 9 (cont'd): Angela Werneke

3. Waste Disposal - To Use DOE Terminology: What is the "Path Forward?" - Given the anticipated lack of disposal facilities for low-level radioactive, toxic, and hazardous waste at LANL, DOE must detail where its legacy and newly generated waste will be disposed and how it will be transported to off-site facilities. DOE must detail the proposed transportation modes and routes and the impacts to the communities along the routes and those surrounding the dumps. What emergency preparedness capabilities exist along the proposed routes? *9-8*

4. Water Usage in the Face of Stricter Limits Asked By DOE – DOE estimated in the 2003 Final CMRR EIS that waste generation may double and the annual water consumption may increase by 10.4 million gallons. Why should a Leadership in Energy and Environmental Design (LEED) certified building generate any waste, emit contaminants into the air, or discharge contaminated water into the canyons? DOE must explain these contradictions in the new draft EIS. *9-9*

5. Climate Change Impacts Required – "Just-Do-It" - On February 18, 2010, the Council on Environmental Quality (CEQ) released draft guidance for public comment about how "Federal agencies can improve their consideration of the effects of greenhouse gas GHG emissions and climate change in their evaluation of proposals for Federal actions under the NEPA." While the guidance is being finalized, the CEQ recommends "just-doing-it." DOE must conduct such analyses in the new draft EIS. *9-10*

6. Methods for Decontamination, Decommissioning and Demolition (DD&D) of the Existing CMR Building and the Proposed New NF - The 2004 Record of Decision (ROD) for the CMRR Project stated the existing CMR building would be DD&D in its entirety. However, the actual implementation of these decisions is dependent on DOE funding levels and allocations of the DOE budget across competing priorities, including construction of a new NF. The DD&D Work Plan must be part of the new draft EIS in order to ensure that it becomes part of the complete National Environmental Policy Act (NEPA) analyses. Further, the new draft EIS that will analyze the impacts of building a new NF must also examine the impacts of removing it. *9-11*

Thank you for your consideration of my comments.

Sincerely,

Angela Werneke
awerneke@earthlink.net
3466 Cerrillos Road J1
Santa Fe, NM 87507-3014
505.988.2099

9-8 Radioactive waste generated by construction and operation of the proposed CMRR-NF would be managed through the LANL waste management program, as described in Chapter 3, Section 3.12.4.1, Solid Radioactive Waste Management. Low-level and mixed low-level radioactive waste would be disposed of off site at either the Nevada National Security Site or the commercial facility in Clive, Utah. Transuranic waste would be disposed of at the Waste Isolation Pilot Plant in New Mexico. Impacts associated with management and transport of these wastes are evaluated in the waste management and transportation sections of Chapter 4. Radioactive waste would be transported by truck. The transportation routes that are analyzed are shown in Appendix B, Figure B-1. The level of emergency preparedness would vary along the transportation routes. DOE uses DOE Order 151.1, Comprehensive Emergency Management System, as a basis to establish a comprehensive emergency management program that provides detailed, hazard-specific planning and preparedness measures to minimize the health impacts of accidents involving loss of control over radioactive material or toxic chemicals. DOE contractors are responsible for maintaining emergency plans and response procedures for all facilities, operations, and activities (including transportation) under their jurisdiction and for implementing those plans and procedures during emergencies. The Transportation Emergency Preparedness Program was established by DOE to ensure its operating contractors and state, tribal, and local emergency responders are prepared to respond promptly, efficiently, and effectively to accidents involving DOE shipments of radioactive material.

9-9 LANL approaches sustainability on a site-wide basis, knowing that new facilities will require the use of limited resources. LEED certification ensures that new projects such as the proposed CMRR-NF are executed sensibly, while other efforts, such as decommissioning of unused space and large-scale infrastructure projects are aimed at improving the efficiency of energy and water use site wide. LEED certification has become an industry standard for achieving more efficiency in buildings in terms of energy and water use. Using a tiered approach, the LEED program educates and encourages selection of strategies and products that reduce water consumption and waste compared to buildings that do not incorporate such measures (see Chapter 4, Section 4.6, for additional information related to LEED-related efforts at LANL). Efforts like these are focused on achieving continual resource use reductions for the entire LANL site, as set out in DOE regulations and Executive orders.

Commentor No. 9 (cont'd): Angela Werneke

9-10 The *CMRR-NF SEIS* includes an analysis of the impacts of the proposed alternatives with respect to greenhouse gas emissions. Refer to Chapter 4, Sections 4.2.4.2, 4.3.4.2, and 4.4.4.2 of the SEIS. For all alternatives, annual greenhouse gas emissions during construction and operation would be below the draft CEQ guidance threshold that would require a more-detailed evaluation.

9-11 The projected environmental impacts associated with decontamination, decommissioning, and demolition of the existing CMR Building and the proposed CMRR-NF are considered to the extent possible at the current time in the *CMRR-NF SEIS* (see Chapter 4, Section 4.5, of the SEIS).

Commentor No. 10: Glenn McMaken

From: Glenn McMaken [mcmakeng@hotmail.com]
Sent: Wednesday, May 25, 2011 7:51 AM
To: nepalaso@doeal.gov
Subject: CMRR comment

I only want to say the CMRR is a necessary project and I support continuing forward with construction of it. The current CMR is beyond its life expectancy, and the new building is needed to continue to process materials the old facility handled. Concerns over the safety of the building are unfounded. ***10-1***

Thank-you,

Glenn McMaken

10-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

Commentor No. 11: Bart Davis

From: Bart Davis [bdavis@jbhenderson.com]
Sent: Wednesday, May 25, 2011 12:50 PM
To: NEPALASO@doeal.gov
Subject: CMRR Supplemental EIS
To Whom It May Concern:

I am writing in support of moving forward with the Los Alamos National Laboratory Chemistry and Metallurgy Research Replacement Project.

First and foremost, I believe it to be crucial and Instrumental to preserving our national security, and second, I support it from an economic boost perspective for both Northern New Mexico, and the State as a whole. *11-1*

I hate it that we have to spend billions of dollars for a facility such as the CMRR, and I pray we never have to actually deliver the products it produces, but I can't see any other option. We can say the Cold War is over, and I think from one perspective it is, but even as good as our foreign intelligence is, I'm not convinced we know where the next threat to the United States will come from. We need to be prepared on the highest level.

I stand with the often quoted school of "Walk softly, but carry a big stick".

Please insure that I am counted in support of this project .

Respectfully,

Bart Davis

JB Henderson Construction Co., Inc.
VP, Rocky Mountain Division
Office: (505) 662-1910
Fax: (505) 662-1913
Mobile: (505) 780-0926
bdavis@jbhenderson.com

11-1 NNSA notes the commentor's support for the proposed CMRR-NF project. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative and the Modified CMRR-NF Alternative would require a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico, as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 12: Margaret Powers

From: makpowers@aol.com
Sent: Wednesday, May 25, 2011 3:34 PM
To: NEPALASO@doeal.gov
Subject: CMRR SEIS comments

I support the proposal to relocate activities from the existing CMR facility to a new facility on Pajarito Rd. The new facility would be within a more secure area, will be more stable in the event of a seismic event, and would reduce the movement of radioactive materials across LANL, thus reducing the likelihood of a release from a vehicle accident. In addition, LEEDS certification should be pursued to demonstrate a commitment to energy savings and long-term sustainability. The *12-1* environmental impacts of constructing the new facility do not greatly exceed those analyzed in the 2003 EIS. It appears that the shallow excavation option provides some measure of savings in transportation, energy, water, etc. I believe that DOE should select that option, since it appears to have the least environmental costs, assuming it has the same safety and security provisions as the deep option. *12-2*

Margaret Powers
3 Rocking Horse Rd
Santa Fe, NM 87506

12-1 NNSA notes the commentor's support for the proposed CMRR-NF project. The CMRR-NF is registered under the U.S. Green Building Council LEED-NC rating system, as discussed in Chapter 2, Section 2.5, Description of Actions Taken to Date Related to the Chemistry and Metallurgy Research Building Replacement Project.

12-2 NNSA notes the commentor's preference for the Shallow Option for constructing the CMRR-NF.

Commentor No. 13: Jerry Bonn

From: Bonn4@comcast.net
Sent: Wednesday, May 25, 2011 10:44 PM
To: NEPALASO@doeal.gov
Subject: DRAFT CMRR SEIS

Attn: Mr. John Tegtmeier, CMRR–NF SEIS Document Manager

I would like to express my support for the construction of the new CMRR facility in Los Alamos, New Mexico. It is imperative that US science and technology are provided state of the art facilities with capabilities to advance research and support the stockpile stewardship of the US. As a Northern New Mexico resident and US citizen this will not only bring economic growth to the region but also economic benefits to small and large business across the US. The US needs this, New Mexico needs this, the National Laboratory needs this. Thank you for taking my comments into consideration. *13-1*

Respectfully submitted,

Jerry Bonn
5645 Quemazon
Los Alamos, NM 87544

13-1 NNSA notes the commentor's support for the proposed CMRR-NF project.

Commentor No. 14: Michael "Ike" Levy

From: Michael "Ike" Levy [michael@taoshighspirits.com]
Sent: Thursday, May 26, 2011 7:29 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF SEIS

Continuation of nuclear production and enriched plutonium is unthinkable at Los Alamos, or anywhere else. It is incompatible by its very nature with the concept of Environmaental Impact. The environmental consequences of production, distribution, utilazation, and waste containment are all unaccepatable on this planet. Specifically, the consequences from earthquake has not been provided for properly. ***14-1***

Nuclear weapons are unjustiafiable as defense strategies or offensive weapons in today's world and are no longer needed, if in fact, they were ever needed.

Please cease and desist your plan to operate or "improve" these facilities. It is unsafe and utter folly.

Cheers,

Michael 'Ike' Levy
HCR 74 Box 24508, El Prado, NM 87529-9546
Ph/Fax (575) 776-2230 Mobile (575) 613-5007
Email: Michael@TaosHighSpirits.com
Website: www.TaosHighSpirits.com
Skype: icarus8888

14-1 The CMRR-NF SEIS does consider the unlikely event of a severe earthquake that results in the release of radioactive material.

Detailed discussion of accidents is presented in Appendix C; potential impacts related to each alternative are presented in Chapter 4, Sections 4.2.10.2, 4.3.10.2, and 4.4.10.2.

Site-specific geotechnical investigations have been completed for the proposed CMRR-NF project site for both the Shallow Excavation Option and the Deep Excavation Option and recommendations issued related to the design of the CMRR-NF. The *CMRR-NF SEIS* has been revised to include this information. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 15: Ann Hendrie

From: Ann Hendrie [ahh.funny@wildblue.net]
Sent: Friday, May 27, 2011 10:38 AM
To: NEPALASO@doeal.gov
Subject: my comments about the proposed new CMRR building
Attachments: Personal statement addressed to the hearing about the LANL plan for the new CMRR Building.doc

Please see the attachment, which has my thoughts about the proposed new CMRR building. I am praying that whoever actually reads any of this, might really begin to question this proposal, if not even look into their own heart to decide where the truth lies.

Sincerely,

Ann Hendrie—living downwind, in Ojo Sarco, NM

Response side of this page intentionally left blank.

Commentor No. 15 (cont'd): Ann Hendrie

Personal statement addressed to the hearing about the LANL plan for the new CMRR Building…

First of all, I want to thank the Greg Mello's of the world, the Concerned Citizens for Nuclear safety, the Los Alamos Study Group, Nuclear Watch and all those here who have voluntarily dedicated some, if not a LOT, of their energy and lives to questioning the viability of our nuclear present and future. This presence of conscience in the face of seemingly insurmountable odds is the only re-assuring glimpse of sanity in this room.

I have 2 questions for the representatives of the nuclear (defense and energy)industry, which I would like to resurrect from the drowning of industry propaganda to which we are all subjected. These 2 questions are: Why do we need more nuclear warheads?

To answer that first question, we need only to look at Who profits from them. As for really deploying them, any 1 of them, I believe the U.S. has already made its point to the world in 1945.

The second question is: Does the nuclear industry have the incentive, much less the means, of assessing the true risks and costs of nuclear?

I suggest that economics, psychology and history might provide some answer.

Psychologically speaking, we do a bad job in managing risks when they are so enormous and unpredictable. We have little empirical basis for judging rare events, so it is difficult to arrive at good estimates. After Chernobyl, and now, Japan, there has not been even the resources nor the means to collect that data accurately. And when corporations run the show, there might be few incentives to think hard at all. On the contrary, when others bear the cost of mistakes, the incentives favor self-delusion.

Experts assure us that New Technology all but eliminates the risk of catastrophe. Events prove them wrong: not only do risks exist, but their consequences are so enormous that they easily erase all the supposed benefits of nuclear technology. What insurance company is willing to be liable in case of a nuclear catastrophe? NONE. Thanks to the US 1957 Price-Anderson Nuclear Industries Indemnity Act, Bechtel(in this case) passes off liability to the public. Is the nuclear industry lobby willing to rescind that Act?? ….So, we can conclude: a system that socializes losses and privatizes gains is doomed to mismanage Risk. ***15-1***

Compounding this self-delusion of the industry, is the secrecy surrounding the nuclear industry, which prevents the public from gaining much information about risks arising from their operations, much less in knowing how to protect themselves in the event of a crisis. What are the so-called escape routes—for Espanola residents, much less for the Japanese? What escape route exists, when it affects the whole planet? And if university professors are hindered in their research programs to study the toxicological effects of long-term, low level exposure to radionuclide contamination, how can we adequately trace the effects back to the source? ***15-2***

15-1 The accident analyses in the *CMRR-NF SEIS* rely on conservative assumptions that over-estimate the potential impacts of severe events to ensure that NNSA has an understanding of the impacts of beyond-design-basis events. In response to concerns following the earthquake and subsequent tsunami that damaged the Fukushima Daiichi Nuclear Power Plant, NNSA revised the *Final CMRR-NF SEIS* to include additional information about the geologic and seismic environment at LANL, additional analysis of extreme events, and a discussion of critical differences between a nuclear power plant (like the Fukushima Daiichi Nuclear Power Plant) and a nuclear materials research laboratory. NNSA believes that the final *CMRR-NF SEIS* presents a rigorous analysis and thorough understanding of the potential environmental consequences that each of the alternatives presents.

15-2 The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10.

Chapter 3, Section 3.11.6, Emergency Preparedness, of the *CMRR-NF SEIS* addresses emergency response preparedness. Emergency response facilities and equipment, trained staff, and effective interface and integration with offsite emergency response authorities and organizations support NNSA's emergency management system at LANL. LANL personnel maintain the necessary apparatus, equipment, and a state of the art Emergency Operations Center to respond effectively to virtually any type of emergency, not only at LANL, but throughout the local community as well. Additional information on the Emergency Operations Center can be found in the 2008 *LANL SWEIS* (DOE 2008a).

Radioactive waste generated by construction and operation of the proposed CMRR-NF would be managed through the LANL waste management program, as described in Chapter 3, Section 3.12.4.1, Solid Radioactive Waste Management. Low-level and mixed low-level radioactive waste would be disposed of off site at either the Nevada National Security Site or the commercial facility in Clive, Utah. Transuranic waste would be disposed of at the Waste

Commentor No. 15 (cont'd): Ann Hendrie

And who pays(and will pay for the next 100,000+ years!!!)for the still-unmanaged disposal of nuclear waste? After 50 years of trying, no acceptable solutions for long(and I mean LONG) term storage of nuclear waste has been found. That, even by good business standards, should be unacceptable, unless, as I said, it is paid for by the public. If the costs are hidden, who's to blame?? And we can conclude again: vested interests cause the nuclear industry to compulsively Underestimate these costs and risks.

15-2 cont'd

I do not think that there is any doubt left in the public mind that our political institutions are too weak to stand up to the Nuclear Lobby in terms of safety. So, who is to lobby for the environment, for the uranium miners, for the populations down-wind? Only the few Greg Mello's, Joni Arends',Jay Coglan's and us, that's who.

Even though the nuclear industry has put millions into propaganda to assure us that the risks are all but non-existent, there are historical facts and geological uncertainties which unquestionably DO exist. What political institution do you consider secure after witnessing our Arab Spring? –after acknowledging who's profiting and who's paying for nuclear? Are nuclear proliferation or terrorism part of the Environmental Impact Statement?? They should be, because they, too, are part of the hidden costs of our nuclear folly.

And if the experts want to argue that we need the weapons industry to supply the fuel for nuclear energy to combat global warming, that so-called solution would be—at best—only transitional. The deployment of new nuclear energy plants cannot be done quickly enough to mitigate climate change. It takes 10 years to build one, and even then, their output would only take care of a frction of the energy demand. Not to mention, the cost of dealing with one meltdown is sufficient to move the entire world to solar power over a 20 year period. Once the transition to solar is achieved, guess what—the fuel is free.

And, while I'm on the subject, it's worth noting that the Nuclear Industry has suppressed renewable energy development for decades. In addition, ironically, as these hidden costs of nuclear power are rising astronomically, the cost of wind and solar is falling fast.

So, in conclusion, it is logical that our nuclear industry, so embedded with the defense and energy interests of this country as they are, is deaf to all our pleas to rationality and morality, as their present existence depends on the continued funding of this insanity. But, if you, dear LANL employees, are so enamored with nuclear energy, that you cannot grasp the scale of the disaster in Japan and the ongoing threat of all our nuclear adventures to the Entire Planet, then you lose all moral credibility and any claim to rationality.

Isolation Pilot Plant in New Mexico. Impacts associated with management and transport of these wastes are evaluated in the waste management and transportation sections of Chapter 4.

Commentor No. 16: Susan Noel

From: suenoel@cybermesa.com
Sent: Friday, May 27, 2011 10:00 PM
To: NEPALASO@doe.gov
Subject: plutonium pit facility eis

Gentlemen: I am a laboratory retiree. As such, I know the nonsense that did go on at the laboratory and continues to go on. I know it is much easier to continue with bomb "research" than it is to go out and do something meaningful for civilization. I know it is much easier to get money from reactionairies in government than to produce something that will bring money. When I began working at the laboratory in 1975, I worked for the solar energy division. We were on the verge in 1975 of actually solving energy problems. However, that would not suit the powers that control this country, as you well know. After Reagan was elected, the money that went for such "insignificant" projects went to star wars -- welfare for Ph.Ds. Very little came out of star wars "research." There was so much waste at the laboratory then, and I am assured by my colleagues who still work for, now, Bechtel, that the waste continues. In the case of the pit factory, there is not only waste, there is extreme danger. I have already had cancer. I have seen in Oak Ridge, TN the water pollution caused by the governmental chemical and radiological activities.

Is it your intent to destroy all forms of life in your greed? I know from experience that you "scientists" say we mere human beings just do not understand, that everything is under control. Tell that to the people who have cancer after Three Mile Island, Chernobyl, and Fukushima. Stop the insanity. I know you will not. I know those of us protesting are spitting into the wind. It might benefit you to get cancer yourselves, thus finding out what your insanity is causing.
Susan Noel, 820 Zia lane, Espanola, NM 87532

16-1

16-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The accident analyses in the *CMRR-NF SEIS* rely on conservative assumptions that over-estimate the potential impacts of severe events to ensure that NNSA has an understanding of the impacts of beyond-design-basis events. In response to concerns following the earthquake and subsequent tsunami that damaged the Fukushima Daiichi Nuclear Power Plant, NNSA revised the *Final CMRR-NF SEIS* to include additional information about the geologic and seismic environment at LANL, additional analysis of extreme events, and a discussion of critical differences between a nuclear power plant (like the Fukushima Daiichi Nuclear Power Plant) and a nuclear materials research laboratory. NNSA believes that the final *CMRR-NF SEIS* presents a rigorous analysis and thorough understanding of the potential environmental consequences that each of the alternatives presents.

Commentor No. 17: Robert L. Maness, Colonel
Kirtland Air Force Base

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 377TH AIR BASE WING (AFMC)

MAY 25 2011

Colonel Robert L. Maness
377 ABW/CC
2000 Wyoming Blvd SE Suite E-3
Kirtland AFB NM 87117-5000

Mr. John Tegtmeier
U.S. DOE/NNSA
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos NM 87544

RE: Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project, Los Alamos, New Mexico

Dear Mr. Tegtmeier

Kirtland Air Force Base (AFB) has reviewed the Supplemental Environmental Impact Statement for the above referenced project. We currently do not see any impacts to the Kirtland AFB mission and therefore have no comment. *17-1*

We appreciate the opportunity to comment on this project. Should you have any question, please feel free to contact Joshua Adkins, NEPA Program Manager for Kirtland AFB, of my staff at (505) 846-7084 or Joshua.adkins@kirtland.af.mil.

Sincerely

ROBERT L. MANESS, Colonel, USAF
Commander

17-1 Comment noted.

Commentor No. 18: Joan May, Chair
San Miguel County, Colorado Board of County Commissioners

SAN MIGUEL COUNTY
BOARD OF COMMISSIONERS

ELAINE FISCHER   ART GOODTIMES   JOAN MAY

VIA Electronic Mail

June 1, 2011

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
USDOE, NNSA
Los Alamos Site Office
3747 West Jemez Rd.
Los Alamos, NM 87544
E-mail: NEPALASO@doeal.gov

Re: Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS) (DOE/EIS-0350-S1)

Dear Mr. Tegtmeier:

The San Miguel County Board of Commissioners (BOCC) appreciates the opportunity to submit comments concerning the draft CMRR-NF SEIS. Given the potential impacts to those downstream from proposed facility and national importance of decision, we request that the comment period on the draft CMRR-NF SEIS be extended seventy five (75) days until on August 26, 2011.

The BOCC is requesting this extension for the following reasons:

18-1

1. The proposed scale of the CMRR-NF SEIS has grown dramatically, with the addition of a second modified construction alternative – the "Shallow Excavation Option." Further, the Project has seriously grown in complexity in order to address seismic issues, with, for example, added related subprojects, such as the concrete batch plant and the pouring of a 250,000 yd3 foundation of a lean concrete basement to mitigate concerns about increased seismic risks. Because the CMRR-NF SEIS provides no preferred construction option at this time, research and technical review to prepare informed comments will have to be performed on multiple construction options.

2. The "extensive Upgrades to the Existing CMR Building" (CMR Alternative 2) was removed as an alternative in the draft CMRR-NF SEIS from the alternatives provided in the October 1, 2010, Notice of Intent. Those members of the public who believe this to be the best alternative will still have to do research and technical review for this important omission. It will require even more work from the public because the baseline impacts have not been provided by NNSA.

P.O. BOX 1170 • Telluride, Colorado 81435 • (970) 728-3844 • FAX (970) 728-3718
www.sanmiguelcounty.org

18-1 On April 29, 2011, NNSA published a notice in the *Federal Register* (76 FR 24018) announcing the availability of the *Draft CMRR-NF SEIS*, the duration of the comment period, the location and timing of public hearings, and the various methods for submitting comments. NNSA's implementation of public participation activities for review of the *Draft CMRR-NF SEIS* was consistent with past practices for other NEPA documents prepared for LANL. NNSA announced a 45-day comment period to provide sufficient time for interested parties to schedule their review of the *Draft CMRR-NF SEIS* around other commitments. In response to requests for additional review time, the comment period was extended by 15 days to a total review time of 60 days (76 FR 28222). NNSA believes this allows a sufficient period of time to provide comments on the *Draft CMRR-NF SEIS*. The Las Conchas wildfire affected many in the immediate vicinity of LANL. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*. Other NNSA EIS processes were delayed to respond to concerns regarding multiple NEPA public involvement opportunities (for example, the Sandia SWEIS scoping meetings and the BSL-3 Draft EIS public review period).

Commentor No. 18 (cont'd): Joan May, Chair
San Miguel County, Colorado Board of County Commissioners

San Miguel County Comments
Page 2 of 2

3. Further, the CMRR-NF is not scheduled to be completed any earlier than FY 2022. Given all of this a 75-day extension, which we argue is the right thing to do, is inconsequential compared to the Project's increased scope and long schedule. Consequently, we thing granting the extension places no significant burden on NNSA, while not granting the extension would place a significant burden on the public.

4. Public Scoping hearings are currently scheduled to be held May 24 – 26 which will provide the public with an opportunity to interact with NNSA personnel, ask questions, discuss concerns, and likely become better informed. The unfortunately the proposed comment period would end just 18 days letter. We believe that is not sufficient time for the general public to research, prepare and submit informed comments on the draft CMRR-NF SEIS after having the benefit of interacting with NNSA officials.

18-1 cont'd

5. A separate but additional Department of Energy (DOE) NEPA process involving the LAB is being held concurrently with the scoping comment period for the CMRR-NF SEIS. This is the draft Greater Than Class C EIS (GTCC EIS), which provides a 120-day comment period (the same we are requesting for the draft CMRR-NF SEIS) with comments due on June 27 – a mere two weeks after the CMRR-NF comments are due. This limited timeframe places an undue hardship on governments, private groups and the public who are providing DOE with informed comments about both important matters at LANL. A 75 day extension would make the comments on the draft due August 26, 2011 which is a more reasonable time after the draft GTCC EIS comments are due.

Thank you again for the opportunity to comment and for your consideration to our request for a 75 day extension.

Sincerely,

SAN MIGUEL COUNTY, COLORADO
BOARD OF COUNTY COMMISSIONERS

Joan May

Joan May, Chair

Response side of this page intentionally left blank.

Commentor No. 19: Julie Roybal, Environmental Impact Review Coordinator, New Mexico Environment Department

From: Roybal, Julie, NMENV [julie.roybal1@state.nm.us]
Sent: Wednesday, June 01, 2011 5:21 PM
To: NEPALASO@DOEAL.GOV
Subject: Environmental Review Response #3451
Attachments: 3451ERResponse 5-31-11 signed.pdf

Good day Mr. Tegmeier,

Attached is the Environmental Review Response from the New Mexico Environment Department that was requested by your agency back in April.

Have a great day,

Julie~

Response side of this page intentionally left blank.

Commentor No. 19 (cont'd): Julie Roybal, Environmental Impact Review Coordinator, New Mexico Environment Department

NEW MEXICO
ENVIRONMENT DEPARTMENT

Office of the Secretary

SUSANNA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

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DAVE MARTIN
Cabinet Secretary
RAJ SOLOMON, P.E.
Deputy Secretary

May 24, 2011

John Tegtmeier
U.S. DOE/NNSA
Los Alamos Site Office
3747 West Jemez Road
TA-3 Bldg 1410
Los Alamos, NM 87544

RE: Draft Supplemental Environmental Impact Statement for the Nuclear Portion of the Chemistry and Metallurgy Research Building Replacement Project, Los Alamos National Laboratory (NMED File No. 3451ER)

Dear Mr. Tegtmeier:

Your letter regarding the above named project was received in the New Mexico Environment Department (NMED) and was sent to various Bureaus for review and comment. Comments were provided by the Hazardous Waste Bureau, Surface Water Quality Bureau, Ground Water Quality Bureau and the Air Quality Bureau and are as follows.

Hazardous Waste Bureau
The Hazardous Waste Bureau provides the following comments.

1. **Section 1.4.1, Scope and Alternatives, page 1-10:**
The use of term "No Action Alternative" to indicate construction of CMRR-NF according to the 2004 Record of Decision (ROD) based on the final Environmental Impact Statement (EIS) issued in 2003 is misleading. The "No Action Alternative" suggests continued use of the existing Chemistry and Metallurgy Research (CMR) Facility at Technical Area (TA) 3, rather than the construction and use of a new building at TA-55 based on 2004 ROD. *19-1*

2. **Section 1.4.2, Modified CMRR-NF Alternative, page 1-11:**
Under the National Nuclear Security Administration's (NNSA) Modified Alternative proposal, a new Chemistry and Metallurgy Research Building Replacement Nuclear Facility (CMRR-NF) would be constructed and operated at TA-55 adjacent to the already constructed Radiological Laboratory/Utility/Office Building (RLUOB). The Modified CMRR-NF (modified from the alternative selected in the 2004 ROD) would have certain design and construction modifications and additional support activities that address *19-2*

19-1 The No Action Alternative included in the CMRR-NF SEIS is to implement the decision made following preparation of the original CMRR EIS in 2003 (that is, to take no action that differs from the previous decision).

19-2 The *Final CMRR-NF SEIS* was revised to include more information on the evolution of the Shallow Excavation Option. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b). The human health and environmental impacts for both the Shallow and Deep Excavation Options have been analyzed to the same level in the *CMRR-NF SEIS*. The potential impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10, of the *CMRR-NF SEIS*. The Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

Commentor No. 19 (cont'd): Julie Roybal, Environmental Impact Review Coordinator, New Mexico Environment Department

seismic safety, infrastructure enhancements, nuclear safety-basis requirements, and sustainable design principles. NNSA believes that, based on new seismic information available since 2004, the alternative selected previously will not meet the standards for a Performance Category 3 structure required to conduct NNSA mission work.

Implementing the Modified CMRR-NF Alternative requires the use of additional concrete and reinforcing steel for the construction of the building's walls, floor, and roof; additional soil excavation, soil stabilization, and special foundation work also would be necessary. Also, a set of fire suppression water storage tanks would be located within the building rather than connecting with the existing fire suppression system at TA-55. The estimated building footprint will be larger than that of the 2004 CMRR-NF due to requirements for engineered safety systems and equipment for the modified CMRR-NF.

The Modified Alternative includes two construction options: the Deep Excavation Option and the Shallow Excavation Option. Under the Deep Excavation Option, NNSA would excavate the building footprint area down to a depth below the poorly welded tuff layer (that lies from 75 ft-130 ft below ground surface), then fill the excavated site partially with low-slump concrete to form a 60-ft thick engineered building site. Three of the building's four floors would be located below ground. The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basement well above that layer in the stable geologic layer, which would allow the building to "float" over the poorly welded tuff layer. Engineered backfill would be used to partially bury the building.

The SEIS states that the preferred construction option has not been selected at this time. There is uncertainty associated with the Shallow Excavation Option and it needs additional technical review. The information provided is not adequate for NMED to comment on the proposed two construction options.

19-2 cont'd

3. **Section 2.6.2.1, Construction Activities Associated with the Modified CMRR-NF, page 1-22 to 1-25**:
The section lists the technical areas that would be affected by the Modified Alternative analyzed in the CMRR-NF SEIS. TA-50 would be one of the areas affected by the alternative. Since 2004 ROD, additional investigations have been conducted at Material Disposal Area (MDA) C at TA-50. Several new boreholes were drilled and subsurface pore-gas data was collected at MDA C to evaluate the potential effect of subsurface fractures on vapor-phase contaminant concentrations and transport. Similarly, investigations have been conducted at other technical areas since 2004 ROD. The CMRR-NF-SEIS should utilize data collected since 2004 to evaluate potential effects of susbsurface contamination and transport on the construction of the Modified CMRR-NF.

19-3

4. **Section 2.10.1, Comparison of Potential Consequences of Alternatives, page 2-33 to 2-34**:
The SEIS states that larger amounts of land will be affected under the modified CMRR-NF proposal than previously estimated during 2003 EIS. Additional land is needed to provide space for additional laydown and spoils area due to larger amounts of construction material needed to support construction of larger building and to store greater amount of excavated material due to larger excavation needed. The modified CMRR-NF would require up to three concrete batch plants. TAs -5, -36, -46, -51, -52, -

19-4

19-3 As discussed in Chapter 2, Section 2.6.2.1, the activities included in TA-50 in the proposed action would involve use of the parking lot that was developed during construction of RLUOB, and the construction of a small stormwater detention pond and possible construction of an electrical substation across Pajarito Road from Material Disposal Area C. Also, there is the potential for temporary power to be run through TA-50 alongside Pajarito Road, but outside of Material Disposal Area C. None of these activities would infringe upon Material Disposal Area C and no excavation would take place that could affect the area down slope from Material Disposal Area C.

19-4 As described in Chapter 4, Section 4.3.12, acreage would be disturbed in several technical areas (in addition to TA-55) under either construction option. There are known Potential Release Sites (PRSs) located within the affected technical areas (for example, Material Disposal Area C in TA-50), and the potential for contact with contaminated soil or other media would be appropriately considered throughout the construction process. For example, PRS-48-001 is being evaluated for potential impacts resulting from actions in the TA-48/55 laydown and concrete batch plant area. Proper precautions would be taken as needed to minimize the potential disturbance of this or other PRSs. If necessary and as appropriate, contaminant removal would be provided by LANL Environmental Restoration staff in accordance with applicable requirements.

Commentor No. 19 (cont'd): Julie Roybal, Environmental Impact Review Coordinator, New Mexico Environment Department

54, -63, -64, and -72 would be affected either temporarily for construction support or permanently for road realignments (TA-55), stormwater detention ponds (TA-50 and -63), and the electrical substation (TA-50).

These activities may potentially cause adverse impacts to the Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) located at these technical areas.

19-4 cont'd

Surface Water Quality Bureau
The U.S. Environmental Protection Agency (USEPA) requires National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) coverage for storm water discharges from construction projects (common plans of development) that will result in the disturbance (or re-disturbance) of one or more acres, including expansions, of total land area. Because this project exceeds one acre (including staging areas, etc.), it may require appropriate NPDES permit coverage prior to beginning construction. This project includes construction and/or use of several permanent and temporary facilities including the CMRR-NF site, laydown areas/concrete batch plants, spoils areas (Deep Excavation Shallow Excavation Options), parking lot, temporary power upgrades, Pajarito Road realignment, storm water detention ponds, and TA-50 electrical substation. It also includes decontamination, decommissioning and demolition of the Chemistry and Metallurgy Research Building. These activities represent a "common plan of development" and all activities described will require permit coverage whether or not each individual component exceeds the threshold acreage limit.

Among other things, this permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be prepared for the site and that appropriate Best Management Practices (BMPs) be installed and maintained both during and after construction to prevent, to the extent practicable, pollutants in storm water runoff from entering waters of the U.S. This permit also requires that permanent stabilization measures (revegetation, paving, etc.), and permanent storm water management measures (storm water detention/retention structures, velocity dissipation devices, etc.) be implemented post construction to minimize, in the long term, pollutants in storm water runoff from entering these waters. In addition, permittees must ensure that there is no increase in sediment yield and flow velocity from the construction site (both during and after construction) compared to pre-construction, undisturbed conditions (see Subpart 10.D.1.b).

19-5

You should also be aware that EPA requires that all "operators" (see Appendix A) obtain NPDES permit coverage for construction projects. Generally, this means that at least two parties will require permit coverage. The owner/developer of this construction project who has operational control over project specifications, the general contractor who has day-to-day operational control of those activities at the site, which are necessary to ensure compliance with the storm water pollution plan and other permit conditions, and possibly other "operators" will require appropriate NPDES permit coverage for this project.
The CGP was re-issued effective June 30, 2008. The CGP, Notice of Intent (NOI), Fact Sheet, and Federal Register notice can be downloaded at:
http://cfpub.epa.gov/npdes/stormwater/cgp.cfm

In addition, operation of these types of facilities may require Storm Water Multi-sector General Permit (MSGP) coverage. It is unclear whether activities at this site meet the USEPA definition of "industrial activities," and thus require coverage under the MSGP. This permit also requires preparation of a SWPPP, and installation of appropriate storm water runoff control practices (per the SWPPP).

19-5 NNSA intends to comply with all applicable laws and regulations. NNSA will obtain the appropriate permits as the project progresses.

Commentor No. 19 (cont'd): Julie Roybal, Environmental Impact Review Coordinator, New Mexico Environment Department

An industrial SWPPP should include such things as:

- **A description of potential pollutant sources** - includes such things as a site map, an identification of the types of pollutants that are likely to be present in storm water discharges, an inventory of the types of materials handled at the site that potentially may be exposed to precipitation, a list of significant spills and leaks of toxic or hazardous pollutants, sampling data, a narrative description of the potential pollutant sources from specific activities at the facility, and identification of specific potential pollutants; and

- **A description of appropriate measures and controls** - includes the type and location of existing and proposed non-structural and structural best management practices (BMPs) selected for each of the areas where industrial materials or activities are exposed to storm water. A SWPPP must contain a narrative evaluation of the appropriateness of storm water management practices that divert, infiltrate, reuse, or otherwise manage storm water runoff so as to reduce the discharge of pollutants. Non-structural and structural BMPs to be described and implemented include such things as minimizing exposure, good housekeeping, preventive maintenance, spill prevention and response procedures, periodic inspections, employee training, record keeping, non-storm water evaluations and certifications, sediment and erosion control, as well as implementation/maintenance of traditional storm water management practices, where appropriate. A combination of preventive and treatment BMPs will yield the most effective storm water management for minimizing the offsite discharge of pollutants via storm water runoff.

The MSGP was re-issued effective September 29, 2008. The MSGP, Notice of Intent (NOI), Fact Sheet, and Federal Register notice can be downloaded at: http://cfpub.epa.gov/npdes/stormwater/msgp.cfm

Ground Water Quality Bureau
GWQB staff reviewed the above-referenced document as requested, focusing specifically on the potential effect to ground water quality in the area of the proposed project.

LANL is proposing to construct and operate a new Chemistry and Metallurgy Research facility within Technical Area 55 (TA-55) to replace the existing Chemistry and Metallurgy Research facility located in TA-3. The new facility will consist of two buildings: a building for administrative and support functions and a building for Hazard Category 2 special nuclear material.

The existing Chemistry and Metallurgy Research facility at TA-3 sends non-radioactive wastewater to the sanitary wastewater system for treatment and radioactive wastewater to the radioactive liquid waste treatment facility for treatment. Operation of the new Chemistry and Metallurgy Research facility at TA-55 would continue the same practice of segregating non-radioactive and radioactive wastewater and sending them to the sanitary wastewater system and radioactive liquid waste treatment facility, respectively, for treatment. The GWQB regulates discharges of treated effluent from the sanitary wastewater system under Discharge Permit 857 (DP-857) and is presently drafting a renewed and modified permit for this facility. The GWQB is processing a Discharge Permit application for the radioactive liquid waste treatment facility and expects to propose a Discharge Permit for approval in the near future. The Discharge Permits for both treatment facilities will include requirements and conditions to ensure that discharges from these facilities will not result in the exceedance of ground water quality standards or the presence of toxic pollutants in ground water as defined by the Water Quality Control Commission Regulations, 20.6.2 NMAC.

19-5 cont'd

Response side of this page intentionally left blank.

Commentor No. 19 (cont'd): Julie Roybal, Environmental Impact Review Coordinator, New Mexico Environment Department

Construction of the new Chemistry and Metallurgy Research facility will likely involve the use of heavy equipment, thereby leading to the possibility of contaminant releases (e.g., fuel, hydraulic fluid, etc.) associated with equipment malfunctions. The GWQB advises all parties involved in the project to be aware of discharge notification requirements contained in 20.6.2.1203 NMAC. Compliance with the notification and response requirements will ensure the protection of ground water quality in the vicinity of the project.

19-5 cont'd

Air Quality Bureau
The Quality Bureau has evaluated the proposal you have submitted with respect to the proposed Nuclear Facility portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory in the City of Los Alamos, Los Alamos County. Los Alamos County is currently considered to be in attainment with all New Mexico and National Ambient Air Quality Standards.

Construction activities identified in this proposal will create increases in pollutant emissions due to combustion-related construction equipment usage and the disruption of earth. It is important that all facilities and contractors utilized in the proposed project have current and proper air quality permits. For more information on air quality permitting and potential modeling requirements, please refer to 20.2.72 NMAC.

For the duration of the project, dust associated with increased vehicular use may also impact local air quality. Dust control measures should be considered to minimize the release of particulates due to vehicular traffic and ground disturbances. If activities result in significant ground disturbance, the project area should be reclaimed to avoid long-term problems with soil erosion and fugitive dust.

Activities identified in this proposal will impact air quality in the area. It is important that all county and local ordinances are followed for the duration of this project. Negative impacts associated with construction activities identified in this proposal will be minimized if regulations and guidelines identified in this document are followed.

19-6

I hope this information is helpful to you.

Sincerely,
Julie E. Roybal
Julie Roybal
Environmental Impact Review Coordinator
NMED File #3451 ER

19-6 All facilities and contractors utilized in the proposed project would have current and proper air quality permits, in accordance with 20.2.72 NMAC. As noted in the *CMRR-NF SEIS*, Chapter 4, Section 4.7, Mitigation, activities would follow standard procedures for minimizing construction impacts on air quality. These practices are required by Federal and state licensing and permitting requirements, as discussed in Chapter 5 of the *CMRR-NF SEIS*. As applicable, all county and local ordinances affecting air quality would be followed to minimize impacts associated with construction activity.

Commentor No. 20: Stephen R. Spencer, PhD, Regional Environmental Officer, U.S. Department of the Interior

From: Spencer, Stephen [Stephen_Spencer@ios.doi.gov]
Sent: Thursday, June 02, 2011 3:40 PM
To: NEPALASO@doeal.gov
Subject: Department of the Interior Comments - Draft Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at LANL
Attachments: ER11-394.pdf

Please find attached a comment letter from the U.S. Department of the Interior on the Supplemental DEIS for the subject project. I would appreciate an acknowledgement by return e-mail that this letter has been received.

Thanks.

Stephen R. Spencer, PhD

Regional Environmental Officer
Office of Environmental Policy and Compliance
U.S. Department of the Interior
1001 Indian School Road NW, Suite 348
Albuquerque, NM 87104
Phone: (505) 563-3572 Fax: (505) 563-3066 Cell: (505) 249-2462
Stephen_Spencer@ios.doi.gov
Web Site: www.doi.gov/oepc/albuquerque.html

Response side of this page intentionally left blank.

Commentor No. 20 (cont'd): Stephen R. Spencer, PhD, Regional Environmental Officer, U.S. Department of the Interior

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
1001 Indian School NW, Suite 348
Albuquerque, New Mexico 87104

TAKE PRIDE IN AMERICA

ER 11/394
File 9043.1

June 1, 2011

John Tegtmeier
EIS Document Manager
Los Alamos Site Office
National Nuclear Security Administration
U.S. Department of Energy
3747 West Jemez Road
Los Alamos, NM 87544

Subject: Draft Supplemental Environmental Impact Statement (DSEIS), Nuclear Facility of the Chemistry and Metallurgy Research Replacement Project (Draft CMRR-NF SEIS) (DOE/EIS-0350-S1) to address New Geologic Information regarding Seismic Conditions at the Site, Los Alamos National Laboratory, Los Alamos, New Mexico

Dear Mr. Tegtmeier:

The U.S. Department of the Interior has reviewed the subject DSEIS. In this regard, we have no comment. 20-1

Thank you for the opportunity to review this document.

Sincerely,

Stephen R. Spencer
Regional Environmental Officer

20-1 Comment noted.

Commentor No. 21: Dr. Christopher Chancellor

I would like to offer my full support to the construction of the CMRR. In terms of responsibility to the environment, stockpile stewardship, employee safety, and advancing actinide research this facility is necessary. Contrary to the goals of the anti's, if it is not built here it will be built elsewhere. Hurdles that prevent construction of this facility will be to the detriment of Los Alamos National Laboratory and the communities that support it. Please consider this an investment in the next fifty years in the excellence produced by Los Alamos National Laboratory. ***21-1***

Dr. Christopher Chancellor
5402 S. Thomason Rd.
Carlsbad, NM 88220
chancellor-1@hotmail.com

21-1 NNSA notes the commentor's support of the construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the proposed CMRR-NF would support this effort.

Commentor No. 22: Bob Walsh

From: Bob Walsh [walshb@cybermesa.com]
Sent: Thursday, June 02, 2011 11:43 PM
To: nepalaso@doeal.gov
Cc: jarends@nuclearactive.org; jay@nukewatch.org
Subject: Comment on Draft SEIS

June 2, 2011

Mr. John Tegtmeier
U.S. DOE/NNSA
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico, 87544
by email to: nepalaso@doeal.gov

I respectfully submit this comment on the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico*, DOE/EIS-0350-S1, April 2011. I would appreciate its serious consideration by the National Nuclear Security Administration (NNSA) and look forward to the agency's comprehensive response.

About 20 years ago, I was the lead on the safety analysis for a proposed plutonium storage arrangement at Pantex. We found that aircraft accidents from overflights were a significant contributor to risk, with possibly horrendous consequences. Last November, I commented on the scope of the Supplemental EIS, pointing out that the EIS should consider both accidents and intentional acts.

The Draft SEIS includes the following response to that and similar comments:

"The accident analyses … present the impacts of a range of possible accidents. … A classified appendix was prepared to address the impact of intentional destructive acts, which include terrorism. Substantive details are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks."

22-1

In the appendix that evaluates accident impacts, Section C.3 states that the selection and evaluation of accidents was based on the Nonreactor SAR Preparation Guide. In that guide, Section 3.4 states, "External events … will be … analyzed … if frequency of occurrence is estimated to exceed 10-6/yr conservatively calculated, or 10-7/yr realistically calculated…. The analysis that substantiates frequency need only be referenced."

22-1 In response to similar comments, the text in the *Final CMRR-NF SEIS*, Appendix C, Section C.3.2, has been revised to more clearly reflect the consideration of an airplane crash into the CMRR-NF. The largest aircraft that is considered to have a conservative probability greater than 1 in 1 million per year of accidentally crashing into the CMRR-NF is a general aviation aircraft. References were added to support this conclusion, including the *DOE Standard: Accident Analysis for Aircraft Crash into Hazardous Facilities* (DOE 2006) and a site-specific technical evaluation of the potential for aircraft crashes (LANL 2011a).

Commentor No. 22 (cont'd): Bob Walsh

In the Draft SEIS, Chapter C.3.2 states, "The probability of an airplane crash during overflight is less than 10-6." There are two deficiencies in the paragraph,

1. We assume that this was intended to be 10-6/yr.
2. No analysis is referenced to support this statement.

Having discovered these two oversights upon examination of only one section suggests that this document has not been subjected to rigorous independent review. The general public is neither technically qualified nor adequately funded to perform a comprehensive review.

I now provide the following four comments on the Draft Supplemental EIS:

22-1 cont'd

1. **Please provide a reference to an analysis that substantiates that the probability of an airplane crash during overflight does not exceed 10-6/yr conservatively calculated.**
2. **Please provide a rigorous independent review of this document by an independent professional organization in order to increase public confidence in the conclusions.** **22-2**
3. **Please provide an unclassified overview of the classified appendix, omitting details, but including at least answers to the following questions:**
   a. **Does the appendix include consideration of attacks using aircraft?**
   b. **In determining risks from terrorist attacks, does the appendix assume continued funding for government agencies other than NSA, such as the Transportation Security Administration?**
   c. **Does the appendix estimate the consequences of a successful terrorist attack? If so, have these potential consequences been brought to the attention of the President and Congress for consideration in decisions on nuclear weapons policy?**

   22-3
4. **Please provide a rigorous independent review of the classified appendix by an independent professional organization with appropriate clearances and include in the SEIS an unclassified summary of that assessment. Please include the identity of the organization and the amount budgeted for the review as an assurance that the review is independent and thorough.** **22-2 cont'd**

Thank you for your consideration,

Bob Walsh
1553 Camino Amado
Santa Fe, NM 87505

22-2 NNSA and DOE engage their own technically qualified staff and subject matter experts to prepare the SEIS along with qualified contractors. The analyses include the evaluation of accidents and intentional destructive act impact analyses. NNSA does not intend to pursue an independent external review of the analysis in the *CMRR-NF SEIS*.

22-3 As indicated in Chapter 4, Section 4.2.10.3 of the *CMRR-NF SEIS*, substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA considered a range of possible terrorist or intentional destructive acts and performed a detailed analysis of selected scenarios. Selected scenarios provide a reasonable range of events, including those with the largest expected impacts.

NNSA has an extensive program related to preventing terrorist threats. This includes ongoing evaluations of facilities and security forces to prevent successful attacks. In evaluating intentional destructive acts, the probability of a given scenario occurring is not a factor in the analysis. Therefore, the programs and funding of other entities, such as the Transportation Security Administration is not a relevant factor. The intentional destructive acts appendix presents consequences projected to occur in the event of a successful attack. The results of these analyses will be reviewed and considered by NNSA in making its decision on the CMRR-NF and are shared, as appropriate, with senior Administration officials and Congress.

Commentor No. 23: Beth Enson

From: beth enson [wildmushroomsoup@gmail.com]
Sent: Friday, June 03, 2011 5:28 PM
To: NEPALASO@doeal.gov
Subject: comments on new nuclear bomb factory at LANL

To whom it may concern,

I am horrified and enraged that our nation is engaged in the production of yet another generation of nuclear bombs, and here in our own backyard no less. There is NO TIME LEFT for this prodigious waste of resources when our planet, our society, and our economy are facing imminent, interrelated crises. The funneling of so much wealth into the hands of military contractors has devastated our civil society and is rapidly creating a rigid tiered-class system that outstrips anything ever seen anywhere on earth. I grieve and tremble for our nation and the future of my beloved daughter, Under no circumstances will I sit by and allow this crime against humanity to be committed in my name. **23-1**

--
Beth Enson

PO Box 503
Arroyo Seco, NM 87514

23-1 NNSA notes the commentor's opposition to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 24: Melody Sayre

From: Melody Sayre [melsay55@taosnet.com]
Sent: Friday, June 03, 2011 7:40 PM
To: NEPALASO@doeal.gov
Subject: e.i.s. statement

Considering the amount of time that has elapsed and the increase in cost since the inception of this project ,I believe strongly that a new e.i.s. statement be conducted. Sincerly , Melody Sayre *24-1*

24-1 NNSA notes the commentor's support for the preparation of a new environmental impact statement for the CMRR-NF project. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information regarding the decision to prepare a supplement.

Commentor No. 25: Jeff Northrup

From: Jeff Northrup [jeffn@taosnet.com]
Sent: Friday, June 03, 2011 9:06 PM
To: NEPALASO@doeal.gov
Subject: insanity

Anyone who insists on this road of destruction is crazy. It must stop. *25-1*
Jeff Northrup Taos xxx-xxx-xxxx

25-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL.

Commentor No. 26: Liz Schwartz

From: Liz Schwartz [lizbetschwartz@gmail.com]
Sent: Saturday, June 04, 2011 8:59 AM
To: NEPALASO@doeal.gov
Subject: nuclear bomb factory

DO YOU THINK THAT YOU AND YOUR FRIENDS AND FAMILY ARE IMMUNE FROM THE CONSEQUENCES OF THIS INSANITY? ***26-1***

26-1 Comment noted.

Commentor No. 27: Margarita Denevan

From: Margarita Denevan [micuaro@taosnet.com]
Sent: Saturday, June 04, 2011 4:14 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF SEIS

President Obama called for "a world free of nuclear weapons". Why then does the United States need to build a new CMRR-NF any where let alone spend over 5 billion dollars of tax payers' money to build such a complex on a recognized and acknowledged seismic fault ? *27-1*

The Non-Proliferation Treaty forbids the building of new nuclear weapons. To say that plutonium pit production is "maintenance" of existing weapons is so obviously disingenuous since it is a known fact that each pit has a life of 100 years and that there are at least 14,000 pits available now. And why do we need to "maintain" nuclear weapons in "a world free of nuclear weapons" in the first place? *27-2*

On the subject of "national security" the argument that we need to "maintain existing weapons" as a deterrent to possible attack is again, disingenuous. On 9/11 the entire world was aware that the US had the largest nuclear arsenal and yet we were attacked.

And again considering national security, how secure are we when the plan is to store tons of plutonium over a seismic fault? *27-3* The plan to fill the fault (by the way, which one, there are five? in that area) with tons of concrete certainly threatens our safety since the production of that concrete will also produce green-houses gases which then pollute the very air we breath *27-4*

A major concern for our country today is JOBS. That 5-6 billion tax dollars can be better spent on renewable energy research. New Mexicans would still be employed at a Los Alamos Renewable Energy Research Laboratory (ALRERL). In fact, opportunities for employment would be greater if Los Alamos became a Renewable Energy Lab due to the spin-off industries. The nuclear weapons production industry is very limited. *27-5* Actually, the only ones to benefit from continued nuclear industry are corporations, such as Bechtel. They produce something we can never use. Who doesn't understand that in a nuclear war there can be no winners, every one loses, even those who do not use the weapons. To continue paying Bechtel and their ilk to produce something that actually can harm, even destroy, us is a waste of money . . . it is called corporate welfare.

Respectfully submitted by Margarita Denevan, Arroyo Hondo, NM

June 4, 2011

27-1 A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

27-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

27-3 Refer to the response to Comment 27-1 and see Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

27-4 The emplacement of concrete referred to by the commentor is not for filling a fault. Its purpose is to replace a poorly welded tuff layer under the Deep Excavation Option (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*).

There would be a minimal and temporary increase in greenhouse gases from the construction of the Modified CMRR-NF. The greenhouse gases emitted by operations under the Modified CMRR-NF Alternative would add a relatively small increment to emissions of these gases in the United States and the world. The impacts on greenhouse gas emissions due to construction and operation CMRR-NF are analyzed in Chapter 4, Sections 4.2.4.2, 4.3.4.2, and 4.4.4.2, of the SEIS.

Commentor No. 27 (cont'd): Margarita Denevan

27-5 Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 28: Gene Schmidt, Superintedent, Los Alamos Public Schools

Los Alamos Public Schools

P.O. Box 90 or 2075 Trinity Dr., Los Alamos, New Mexico 87544
Main Line: (505) 663-2222 | Information Line (505) 663-2223 | Fax Line: (505) 663-3247

June 6, 2011

Mr. John Tegtmeier, CMMR SEIS Document Manger
U. S. Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

Mr. Tegtmeier:

As superintendent of Los Alamos Public Schools, our school system stands ready to provide a high quality education for children of future CMMR employees. In stating this, it is important to note that Los Alamos Public Schools also looks to develop an educational partnership with CMMR, which could lead to solutions of real world problems in a school setting. Since its inception, LANL has been on the forefront of many important discoveries. There is every reason to expect that this incredible legacy of discovery will increase at an even faster velocity when construction of the facilities is completed and the operational function of CMMR is underway.

When this occurs, Los Alamos Public Schools seeks to tap into CMMR's brain trust via guest lectures, potential student apprenticeships, and, if possible, student internships. In addition, opportunities for science/mathematics teachers to meet and discuss potential classroom applications through lessons learned with CMMR staff offers the type of real world problem solving that energizes and brings relevance to our students' studies. For example, I foresee an opportunity for instructional staff to serve alongside CMMR staff in a summer exchange. Similarly, the use of CMMR staff as guest lecturers for school classroom is very enticing to our future. ***28-1***

I look forward to working closely with CMMR to ensure that our school system provides the type of high quality of education which makes it possible for Los Alamos National Laboratory to recruit and retain the highest quality staff in the nation and world. Also in closing, there is no doubt in my mind that students/staff throughout northern New Mexico stand to gain from the instructional opportunities as well. For example, school systems throughout our region will benefit from the high caliber of scientist, physicists and mathematicians that will be employed at CMMR.

In closing, I would like to thank you for this investment in our future. ***28-2***

Gene Schmidt
Superintendent

28-1 NNSA notes the commentor's support for construction of the CMRR-NF and the commentor's interest in developing an educational partnership with the CMRR-NF project. NNSA is dedicated to science education in northern New Mexico. There is an active program for education outreach at LANL; activities are coordinated through LANL's Community Programs Office.

28-2 NNSA's decision will be announced in a ROD that will appear in the *Federal Register*. In accordance with NEPA regulations, the ROD cannot be issued any earlier than 30 days after publication of the *Final CMRR-NF SEIS*.

Commentor No. 29: Robert Velasco

Tuesday, June 07, 2011 6:15 PM
Robert Velasco

I strongly believe the CMRR project is vital to our nation's interest. It is critical that we as a nation embrace the reality that nuclear weapons exist in the world and that the US stockpile provides a viable and positive deterrent to their continued proliferation. The only way that our nation can lead the march towards a nuclear-free world is to have a viable and fail-safe deterrent of our own. This is ONLY possible with investment into new nuclear facilities and infrastructure. If not in Los Alamos, then where? ***29-1***

29-1 NNSA notes the commentor's support of the construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the proposed CMRR-NF would support this effort.

Commentor No. 30: Billy M. "Mike" Brazile

Wednesday, June 08, 2011 10:33 AM
Billy M. "Mike" Brazile

Nuclear weapons and nuclear materials are dangerous. We all know that. Since we can't "put the Genie back in the bottle" and nuclear weapons and nuclear materials ARE here it seems that common sense would dictate that we have 21st century facilities, systems, and processes to protect these weapons and materials to ensure the weapons work as part of the United States' overall system of deterrence against current and future enemies maintain our capabilities to produce these weapons and components and maybe even make them safer and smaller and reduce the number we need for deterrence and that we stay in control of these weapons and materials so they are never able to be used against us or anyone else. Or we can use outdated, 20th century facilities (some in shocking states of disrepair) outdated systems and processes and "hope for the best?" I put my faith in the new CMRR facility, new systems, and new processes so we do maintain control of our nuclear weapons and materials. Maintain our nuclear deterrence posture using 21st century facilities, systems, and processes , and continue the "Pax Americana" that we and the rest of the world enjoys and prospers from. While not perfect, we haven't had a world war in over 60 years. *30-1*

30-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

Commentor No. 31: Shelley Waxman

From: swax5s@aol.com
Sent: Wednesday, June 08, 2011 1:09 PM
To: nepalaso@doeal.gov
Subject: CMRR Building, Los Alamos, NM

Mr. John Tegtmeir
U.S. DOE/NNSA

I am a permanent resident of New Mexico and I oppose locating the CMRR Building in Los Alamos. It is 2/3 mile from a geologic fault line and could cause a disaster as well as contaminate the water table. ***31-1***

Shelley Waxman
1613 Villa Strada
Santa Fe, NM 87506

31-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 32: Eddie Archuleta, Business Manager, LIUNA Local 16

From: eddie_a@comcast.net
Sent: Wednesday, June 08, 2011 2:28 PM
To: NEPALASO@doeal.gov
Subject: CMRR PROJECT
Attachments: CMRR Letter June 8.docx

AS LABORERS UNION LEADER IN FAVOR A THIS PROJECT, I'M FORWARD THIS LETTER IN APPROVAL *32-1*

EDDIE ARCHULETA
BUSINESS MANAGER
LIUNA LOCAL UNION 16
ALBUQUERQUE, NEW MEXICO
(505) 265-7933

32-1 NNSA notes the commentor's support of the construction and operation of a new CMRR Facility at LANL.

The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 32 (cont'd): Eddie Archuleta, Business Manager, LIUNA Local Union 16

1030 San Pedro Dr. NE
Albuquerque, NM 87110

June 8, 2011

TO WHOM IT MAT CONCERN:

I am writing this letter in regards to the CMRR project in Los Alamos. Local #16 is fully in favor of this project and I have been asked to give testimony as to why I feel undertaking the project would be beneficial. After much thought, consideration and discussion with my staff, I feel confident in moving the project forward, keeping the following points in mind:

- With the addition of this project, we would nearly double the workforce being utilized in that area. As of now, Northern New Mexico has a very large out-of-work-list, but it is filled with highly skilled workers.
- The project would provide long-term, family-sustaining jobs in Northern New Mexico. The project is expected to last 12 years. This would give our Laborers an excellent outlook for both the near and more distant future.
- Local #16 currently has a training curriculum in place that would provide these workers with the necessary construction-focused training they would need for success on the project. In the past, the positions in that area have primarily been maintenance-based. This would mean more members with more varied skills.

With the above reasons, we hope that you are able to feel comfortable in approving this project, and, in doing so, providing hope and sustainability to a great number of our members.

32-1 cont'd

Fraternally yours,

Eddie Archuleta
Business Manager/Secretary-Treasurer

Response side of this page intentionally left blank.

Commentor No. 33: Rocco Davis, Special Assistant to the General President, LIUNA Local 16

LiUNA!

PACIFIC SOUTHWEST REGIONAL OFFICE
11135 Trade Center Drive • Suite 100
Rancho Cordova, CA 95670
Phone: (916) 446-3622 • Fax: (916) 446-6655

June 8, 2011

Mr. John Tegtmeler
CMRR-NF Seis Document Manager
3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeler:

I am writing this letter in regards to the CMRR project in Los Alamos. The Laborers International Union of North America and Laborers Local 16 are fully in favor of this project and I have been asked to give testimony as to why I feel undertaking the project would be beneficial. After much thought, consideration and discussion we urge you to move the project forward.

33-1

- The CMRR project would nearly double the workforce being utilized in the area. As of now, Northern New Mexico has a high unemployment rate and Local 16 has a list filled with highly skilled workers ready to go to work.
- The project would provide long-term, family-sustaining jobs in Northern New Mexico. The project is expected to last 12 years. This would give our Laborers excellent employment opportunities for both the near and more distant future.
- Laborers Local 16 currently has training curriculum in place that would provide all Laborers with the necessary construction-focused training they would need for success on the project. In the past, the jobs in this area have primarily been maintenance-based. This project would mean more members having a wider variety of skills based on the available training once they complete the classes.

With the above reasons, we hope that you are able to feel comfortable in approving this project, and, in doing so, providing hope and sustainability to a great number of our members and their families.

Fraternally yours,

Rocco Davis

Rocco Davis
LIUNA Special Assistant to the General President, Vice President at Large
and Pacific Southwest Regional Manager

Feel the Power

33-1 NNSA notes the commentor's support of the construction and operation of a new CMRR Facility at LANL.

The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF would require a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico, as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 34: Kevin C. Krank

Friday, June 10, 2011 9:36 AM
Kevin C. Krank

The CMRR project is necessary for our national security. It is good for the national economy, for New Mexico, and Los Alamos. ***34-1***

34-1 NNSA notes the commentor's support of the construction and operation of a new CMRR Facility at LANL.

Commentor No. 35: Laura Watchempino
Multicultural Alliance for a Safe Environment

A new Environmental Impact Statement (EIS) is needed. The Supplemental EIS cannot adequately assess the impacts of a completely redesigned Chemical and Metallurgical Research Replacement (CMRR) Nuclear Facility building for plutonium processing at Los Alamos National Lab (LANL). An updated seismic hazards analysis and final building design should be completed and analyzed in a new EIS. A new EIS should analyze the costs of a new CMRR Complex in a geologically unstable area as well as the need for new nuclear weapons in **35-1**

the face of terrorist threats and climate change. The United States should not violate its obligations under non-proliferation treaties which are the law of the land under our Constitution. **35-2**

The issue of nuclear hazardous waste disposal has yet to be dealt with by President Obama's Blue Ribbon Commission on America's Nuclear Future. The Commission's recommendations are also likely to result in the need for a new EIS. **35-3**

New alternatives which consider the need for cleanup of LANL's legacy waste sites and LANL's compliance with its 2005 Consent Order with the New Mexico Environment Department should be evaluated. **35-4**

Downstream and downwind communities will continue to suffer disproportionate environmental and health risks from LANL's dangerous activities. All communities which rely on the Rio Grande to supply their domestic water needs will be at risk, especially the northern Pueblo and Hispanic communities adjacent to LANL. Principles of environmental justice require an evaluation of the cumulative impacts of this project and LANL's past activities on these communities and their water supplies. **35-5**

Ms. Laura Watchempino
Multicultural Alliance for a Safe Environment
P.O. Box 407
Pueblo of Acoma, NM 87034
5000wave@gmail.com

35-1 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 35 (cont'd): Laura Watchempino
Multicultural Alliance for a Safe Environment

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA acknowledges that there is substantial opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

35-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

35-3 The Blue Ribbon Commission is addressing the disposition of high-level radioactive waste; this waste type is not associated with operations at the proposed CMRR-NF. Radioactive wastes to be generated at the CMRR-NF include low-level radioactive waste, mixed low-level radioactive waste, and transuranic waste. There are treatment and disposal facilities available for these waste types. See Chapter 3, Section 3.12.4, for more information regarding LANL operations associated with these waste types.

35-4 Activities related to environmental cleanup are not within the scope of the *CMRR-NF SEIS*. However, NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

35-5 Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives. As summarized in Chapter 2, Table 2-3, there would be no impacts on surface-water or groundwater resources during operations, with any small impacts due to construction activities being minimized through the use of standard erosion and sediment control measures and spill prevention practices.

Commentor No. 36: Scott Kovac, Operations and Research Director
Nuclear Watch New Mexico

From: Scott Kovac [scott@nukewatch.org]
Sent: Tuesday, May 17, 2011 4:12 PM
To: Scott Kovac; Snyder, Roger; NEPALASO@doeal.gov
Cc: Don Hancock; Joni Arends; Susan Gordon; Jay Coghlan; matthew_padilla@tomudall.senate.gov; jennifer.manzanares@mail.house.gov; jennifer.catechis@mail.house.gov; pablo_sedilla@bingaman.senate.gov; marigayl@netzero.com; Jeanne Green
Subject: 60 Signatures for a CMRR-NF hearing in Taos
Attachments: Taos CMRRNF Signatures 3.jpeg; Taos CMRRNF Signatures 4.jpeg; Taos CMRRNF Signatures 2.jpeg; Taos CMRRNF Signatures 1.jpeg

Mr. John Tegtmeier
CMRR-NF SEIS Document Manger

Roger Snyder
Deputy Manager Los Alamos Site Office

Gentlemen,

Thank you for your call yesterday with the "heads-up" concerning your facilitation meeting for Taos suggestion. While we await those details and subsequent responses from the residents of the Taos area, I am sending you the signatures from this weekend and reiterating our previous requests.

Please find attached more than 60 signatures from Taos area residents requesting a hearing in Taos for the Chemistry & Metallurgy Research Facility Replacement (CMRR) Nuclear Facility Project Supplemental Environmental Impact Statement (SEIS).

The request for a hearing by the Mayor of Taos and so many signatures clearly shows the large interest in the CMRR-NF project in the Taos area.

It is unacceptable to not have a hearing when there is such interest or to require that people travel 50 miles or more to a hearing in another location.

Please schedule the hearing promptly and provide public notice as soon as possible, including a Federal Register notice at least 15 days in advance of the dates of the hearings.

In addition to the additional hearing in Taos we remind you of our request for a hearing in DC. Our colleagues there believe that a hearing there would have a good turnout.

We appreciate your efforts this week to complete making the reference documents available, which will aid in making comments, but the comment period is too short.

36-1

36-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and no previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with a hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. DOE determined that holding a public hearing in Washington, D.C., was not appropriate for the *CMRR-NF SEIS* because construction of the CMRR-NF is specific to LANL missions. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

As discussed in Section 2.2, NEPA Process, of this CRD, in response to requests for additional review time, the comment period was extended by 15 days to a total review time of 60 days. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*. In addition, other NNSA EIS processes were delayed to respond to concerns regarding multiple NEPA public involvement opportunities (for example, the Sandia SWEIS scoping meetings and the BSL-3 Draft EIS public review period). NNSA determined this allows a sufficient period of time to provide comments on the *Draft CMRR-NF SEIS*.

Commentor No. 36 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

We are still requesting a 60 day extension. It seems to me that the BSL-3 EIS could be delayed to make room to extend the CMRR-NF comment period until the end of July. **36-1 cont'd**

Thank you,

Scott

cc: Matthew Padilla, Senator Tom Udall, Jennifer Manzanares, Representative Ben R. Lujan Jennifer Catechis, Representative Ben R. Lujan Pablo Sedilla, Senator Jeff Bingaman

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Scott Kovac
Operations and Research Director
Nuclear Watch New Mexico
551 W. Cordova Road #808
Santa Fe, NM, 87505
505.989.7342 office & fax
www.nukewatch.org

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Commentor No. 36 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

To Senator Jeff Bingaman, Senator Tom Udall, and Representative Ben Ray Lujan:

We, the undersigned, agree with Taos Mayor Darren Cordova on the need for a hearing on the CMRR-NF SEIS in Taos, New Mexico. Taos is a substantial downwind community of Los Alamos National Laboratory (LANL). Thus LANL decisions affect Taos County residents. We request that you demand that the NNSA schedule a CMRR-NF SEIS public hearing in Taos.

Name	*Signature*	*Address*
LINDA GAZA	Linda Gaza	PO Box 1859, El Prado NM 87529
Jeannie Pearle	Jeannie Pearle	750 Gusdorf Rd #202, Taos NM 87571
AMY MORTIER	Amy Mortier	PO Box 171, TUCSON, AZ 85702
JOE GYOVAI	[illegible]	PO Box 811 El Prado 87529
W. Thich	W. Thich	P.O. Box 599 El Prado 87529
Margaretina N Hahn	Margaretina Hahn	PO BOX 402 Ranchos 87557
Julie Clouthman	Julie Clouthman	P.O. Box 181 El Prado NM 87529
Nomi Hava		PO Box 165 Taos, NM 87571
Nancy Pitrusa		1017 A Dea Ln Taos 87571
Margarita Donovan		P.O. Box 445, Arroyo Hondo, NM 87513
Pamela Yuen		P.O. Box 168 Arroyo Seco, NM 87514
Yann Yuen		PO Box 168 Arroyo Seco, NM 87514
Claudette Morville		PO Box 394 Arroyo Hondo 87513
Dorothy Jensen		PO Box 765 Questa, NM 87556
Cal Hulbert	Calvin Hulbert	PO Box 507 Arroyo Hondo 8751[illegible]
Susann McCarthy		PO BOX 1846 Ranchos de TAOS 87557
MONTE DOEREN		P.O. Box 1027 Questa NM. 8755[illegible]
MARYANN SOLOWAY	MaryAnn Soloway	P.O. Box 474 ARROYO SECO NM 8751[illegible]
Nancy Johnson	Nancy Johnson	226 Espinoza Rd. Ranchos de Taos
MICAH ROSEBERRY	[illegible]	P.O. BOX 3137 TAOS, NM 87557
Marilyn Hoff,	Marilyn Hoff	PO Box 295, El Prado, NM 87529

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Commentor No. 36 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

To Senator Jeff Bingaman, Senator Tom Udall, and Representative Ben Ray Lujan:

We, the undersigned, agree with Taos Mayor Darren Cordova on the need for a hearing on the CMRR-NF SEIS in Taos, New Mexico. Taos is a substantial downwind community of Los Alamos National Laboratory (LANL). Thus LANL decisions affect Taos County residents. We request that you demand that the NNSA schedule a CMRR-NF SEIS public hearing in Taos.

Name	*Signature*	*Address*
Stephan Shearer	[signature]	1200 Camino de la Cruz El Taos, N Mex
Carol-la Sonam Dorje		P.O. Box 3173 Ranchos de Taos N.M
[illegible]		P.O. Box 135, Ranchos de Taos 875
John Acker	John Acker	PO Box 3437 Taos NM 87571
SUSAN MOORE	Susan Moore	1452 B Mesa Vista Ln El Prado 87529
Roni Blevins	Roni Blevins	PO Box 1108 El Prado, NM 87529
Alicia Norling	Alicia Norling	POBOX 656 Arroyo Hondo 87513
Paule Marx	Paule Marx	POB 2932 TAOS NM 87571
LINDA FAIR	[signature]	POB 156 El Prado NM 87529
CYNTHIA PATTERSON	Cynthia Patterson	P.O.B. 15 Taos NM 87571
HANK SAXE	Hank Saxe	P.O. BOX 15 TAOS NM 87571
Helen South	Helen South	110 La Loma St. Taos 87571
Bob South	Bob South	" " "
Kate Keely	Kate Keely	719 Lavadie Rd. Taos 87571
Whitney Nieman	Whitney M. Nieman	P.O. Bx 357, El Prado 87529
Tony Isaacs		P.O. Box 472, TAOS, NM 87571
Stacy T. Kane		P.O. Box 1017 El Prado, NM 87529
Joan Richards		POB 310 Arroyo Seco 87514
Clifton R. Bain	[signature]	P.O. Bx 297 Arroyo Hondo, NM 87513
Carrie Leven	Carrie Leven	PO Box 1027 Questa, NM 87556
Jeanne Green	Jeanne Green	11 Los Padillas El Prado NM 87529

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Commentor No. 36 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

To Senator Jeff Bingaman, Senator Tom Udall, and Representative Ben Ray Lujan:

We, the undersigned, agree with Taos Mayor Darren Cordova on the need for a hearing on the CMRR-NF SEIS in Taos, New Mexico. Taos is a substantial downwind community of Los Alamos National Laboratory (LANL). Thus LANL decisions affect Taos County residents. We request that you demand that the NNSA schedule a CMRR-NF SEIS public hearing in Taos.

Name	*Signature*	*Address*
Josie Lenwell	Josie Lenwell	3006 Cottontail Rd Taos NM 875[illegible]
Bonnie Bonneau	Bonnie Bonneau	Bx 351 El Prado 87529
Julie R Sutherland	[illegible]	HC 81 B9 Lama, Questa 875[illegible]
Nanette S Laney	[illegible]	562 Hondo-Seco Rd Arroyo Seco NM 8751[illegible]
Steven Traverse	[illegible]	1562 Hondo-Seco Rd Arroyo Seco NM 87514
DIRK SULLIVAN	[illegible]	P.O. Box 1135, EL PRADO, NM 87529
BARBARA NATFIELD	[illegible]	Box 3156 TAOS 87571
KATHLEEN URQUHART	[illegible]	PO BOX 1572 El Prado, NM 87529
NANCY ROBINSON	Nancy Robinson	PO BOX 576 EL PRADO 87529
Lori Stiles	[illegible]	7 Lobo Ranch Rd Arroyo Hondo 87513
Allen Ferguson	[illegible]	POB 1589 El Prado 87529
Lucy Whyte Ferguson	Lucy Whyte Ferguson	POB 1589, El Prado 87529
LEE ROBERTS	Lee Roberts	PO Box 831, ARROYO SECO NM 87514
BONNIE KORMAN	Bonnie Korman	POB 80, TAOS, NM 87571
Margarita Denevan		PO Box 445 Arroyo Hondo, NM 87513
Liam Denevan	Liam Denevan	PO Box 445 Arroyo Hondo NM 87513
Hope Buechler	Hope Buechler	POBox 665 Arroyo Seco NM 87514
Maria Turner	Maria Turner	357 Vegas de Taos Circle Taos NM 8757[illegible]
Melissa Larson	[illegible]	PO Box 1051 Ranchos de Taos, NM 87557
ALICIA BOMHOFF	[illegible]	Box 2063 EL PRADO NM 875[illegible]
Rev. Susan Yaron	Rev Susan Yaron	1200 Camino de la Cruz Taos NM 875[illegible]

Response side of this page intentionally left blank.

Commentor No. 36 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

To Senator Jeff Bingaman, Senator Tom Udall, and Representative Ben Ray Lujan:

We, the undersigned, agree with Taos Mayor Darren Cordova on the need for a hearing on the CMRR-NF SEIS in Taos, New Mexico. Taos is a substantial downwind community of Los Alamos National Laboratory (LANL). Thus LANL decisions affect Taos County residents. We request that you demand that the NNSA schedule a CMRR-NF SEIS public hearing in Taos.

Name	*Signature*	*Address*
Carol-la Sonam Dorje	Carol-la Sonam Dorje	P.O. Box 2173 Rancho

Response side of this page intentionally left blank.

Commentor No. 37: Anna Katherine

From: Anna Katherine [annakath@earthlink.net]
Sent: Saturday, June 11, 2011 5:01 PM
To: nepalaso@doeal.gov

I am a long-time permanent resident of New Mexico. I oppose locating the CMRR building in Los Alamos. It is too close to a geologic fault line. Also, the contents of this building could contaminate our drinking water. ***37-1***

Anna Katherine
210 Gonzales Road
Santa Fe, N.M. 87501

37-1 NNSA notes the commentor's opposition to locating the new CMRR Facility in Los Alamos.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information. As discussed in Chapter 4, Sections 4.3.6, operation of the Modified CMRR-NF would not impact water resources around LANL.

Commentor No. 38: April Mondragon

From: April Mondragon [etasinum@gmail.com]
Sent: Sunday, June 12, 2011 8:42 AM
To: nepalaso@doeal.gov
Subject: CMRR Comments

Mr. John Tegtmeir
U.S. DOE/NNSA
Los Alamos Site Office
3747 West Jemez Rd.
TA-3 Building 1410
Los Alamos, NM 87544

After attending the recent presentation given by Mr. John Tegmeir, et.all., which was disrespectful to the well informed residents of Northern New Mexico. in that you refused to include our public comments for the record. ***38-1***

So I will briefly state the reasons for my opposition:

1. The health effects now and in the future of uranium and plutonium are lethal. You refuse to provide truthful information to the public regarding the health effects. ***38-2***

2. Despite efforts after the fact, to clean up current toxic waste (which is still not complete), the contamination to our environment has not been adequately factored into your "plan" in regard to the "cost" to the life and the eco-system. you will be producing more toxic waste, that has a half life of 500 thousand years. IF you really considered just these facts, with the simple knowledge that water, air and earth are necessary for life...then continuing to produce such toxic waste would be considered contrary to the mission of "keeping" the public "safe". ***38-3***

3. Knowingly building a CMRR on a seismic fault is nothing but foolishness, in that thinking that anything that is man made can with stand the power of the Earth. Fukushima and Cernobyl are clear examples, no matter what your "best" scientific up grades are. ***38-4***

4. BUilding a facility to increase the capability of nuclear weapon manufacturing from 20 pits to 80 pits per year, is in fact a contradiction in terms of the non=proliferation treaty START. ***38-5***

5. The great scientific minds of LANL would be put to better use in the research and development of solar and wind power technologies.

6. The military industrial complex budget, now in the trillions, and the CMRR alone is now in the BILLIONS, I can think of many far better ways to spend our time, money and energy. ***38-6***

38-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

38-2 The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The danger of uranium and plutonium has long been recognized. The awareness and knowledge of the health effects related to exposure to uranium and plutonium has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

38-3 NNSA is aware of the risks associated with the operation of its current and future facilities. These risks are mitigated through compliance with Federal, state and local laws and regulations that protect the public and environment, and through process design and operational procedures.

38-4 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 38 (cont'd): April Mondragon

7. It is not intelligent nor factually adequate to have war profiteers influencing the decisions made for our health and well being.

8. This is not about jobs in New Mexico, this is about the military industrial complex run a muck. There are other industries to invest in, ie: education, film, healthcare, etc... **38-6 cont'd**

Sincerely,

--
April Mondragon
Live Peace

The accident analyses in the *CMRR-NF SEIS* rely on conservative assumptions that over-estimate the potential impacts of severe events to ensure that NNSA has an understanding of the impacts of beyond-design-basis events. In response to concerns following the earthquake and subsequent tsunami that damaged the Fukushima Daiichi Nuclear Power Plant, revised the *Final CMRR-NF SEIS* to include additional information about the geologic and seismic environment at LANL, additional analysis of extreme events, and a discussion of critical differences between a nuclear power plant (like the Fukushima Daiichi Nuclear Power Plant) and a nuclear materials research laboratory. NNSA believes that the final *CMRR-NF SEIS* presents a rigorous analysis and thorough understanding of the potential environmental consequences that each of the alternatives presents.

38-5 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

38-6 Funding decisions regarding major Federal programs (for example, health care and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 39: Melvin Turcanik

From: Mel Turcanik [turcanik@yahoo.com]
Sent: Sunday, June 12, 2011 12:36 PM
To: nepalaso@doeal.gov
Subject: CMRR

Melvin Turcanik
19282 650th St.
Dodge Center, MN 55927
turcanik@yahoo.com

Mr John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 W. Jemez Rd.
TA-3 Bldg. 1410
Los Alamos, NM 87544

6/12/11

Dear Mr. Tegtmeir,

It has come to my attention that there is a proposal to build what is called "Chemistry and Metallurgy Research Replacement" project in Los Alamos, NM. I am told this project would increase our ability to produce the Plutonium PIts, which are the heart of a thermonuclear device, from 20 per year in the current facility to 80+ per year. We may already have 15,000 of these devices in storage. *39-1*

I believe this to be in violation of the nuclear non-proliferation treaty. International treaties are supposed to be, according to the constitution, the highest law of the land. *39-2*

This was originally budgeted to cost $550 million. Currently the budget is $5.86 billion. Congress has already rejected the need for "reliable replacement warheads" which was the purpose for this production facility. While we have real serious needs for government resources in this country to improve the lives of people, why would we expend these resources on a project to destroy the world????? I believe this to be an insane use of the power and resources of this country. *39-3*

If the fundamental concept wasn't completely nuts, the site is 2/3 mile from a geologic fault line. *39-4*

Please do everything possible to save us from this extension of cold war insanity. *39-5*

Sincerely,

Melvin Turcanik

39-1 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

39-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

39-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

39-4 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

39-5 Comment noted.

Commentor No. 40: Laurie Harris

From: cosmiklaurie@gmail.com on behalf of laurie harris [laurielu@verizon.net]
Sent: Friday, June 17, 2011 6:33 PM
To: NEPALASO@doeal.gov
Subject: No more nukes

Nuclear power is dangerous to citizens of Mexico and the US. Don't do it. *40-1*

40-1 Comment noted.

Commentor No. 41: Jeff Sharp

Monday, June 13, 2011 11:10 AM
Jeff Sharp

There is no viable reason to hinder the construction of CMRR. this has been studied and evaluated and discussed to the point of ridiculousness, we as a Nation need this facility so that our national security is maintained, the what if's and could happens are the tools the environmentalist use to intimadate the general public , along twith the lie of "cheap " solar windbio-fuels this facility will consolidate, focus and expedite our ability as a nation to safety and effectively build and maintain our nuclear options into the future. *41-1*

41-1 NNSA notes the commentor's support of the construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the proposed CMRR-NF would support this effort.

Commentor No. 42: Susan Trujillo

From: Susan Trujillo
[strujillo@c21success.com]
Sent: Tuesday, June 14, 2011 5:20 PM
To: NEPALASO@doeal.gov
Subject: Comment on proposed nuclear facility

Dear Sirs:

The Los Alamos area is vulnerable to earthquakes (on the Rio Grande Rift), volcanic events (Valle Caldera), wildfires and floods. It is not a logical location for a nuclear facility. This project needs to be stopped and reevaluated. ***42-1***

Thank you.

Sincerely,

Susan Trujillo

Susan Trujillo, Associate Broker
Century 21 Success LL
829 Paseo del Pueblo Sur/ 5528 NDCBU
Taos, New Mexico 87571
800-336-4826 office
575-613-5778 cell
strujillo@c21success.com

42-1 NNSA notes the commentor's position that the CMRR-NF project should be stopped and reevaluated because of concerns about natural hazards. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapters 3 and 4 (Sections 3.5.1 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). Based on the report, future planning will be performed to consider CMRR-NF structural requirements for ash-loading.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in Appendix D of the 2008 *LANL SWEIS* (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials, including vegetation, are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources). If a wildfire disrupted the power provided to the CMR Building or the proposed CMRR-NF, emergency backup power would be provided locally to maintain the most important systems. As discussed in Appendix C, plutonium materials stored within LANL plutonium facilities or used in ongoing operations are generally stable in their configuration and would not require active cooling systems to keep them stable. Therefore, maintenance of power is not necessary to prevent significant releases to the environment. Because the CMRR-NF would be located on a mesa top rather than in a canyon, severe flooding is not a credible event.

Commentor No. 43: Jane Warren

From: Bruce and Jane Warren [janewarren1@gmail.com]
Sent: Tuesday, June 14, 2011 7:48 PM
To: nepalaso@doeal.gov
Subject: CMRR project

Mr. Tegtmeir

I ask that you cancel the CmRR project and that a study be done of LANL's plutonium infrastructure. The cost involved is immoral with all the country's human needs not being met and the Federal budget still unknown for coming years. We need to be down scaling our nuclear weapons. The fact that this is being considered in a location very close to a fault line makes this so easy to say NO to. ***43-1*** ***43-2***

I live in Minnesota but am concerned for my fellow citizens in New Mexico and for the over all welfare and safety of our country.

Thank you for your service.

Please seriously consider my thoughts on this matter and do the right thing for our country.

Jane Warren

43-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

43-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 44: William Reddy

From: Tony Reddy [tony.oldnhappy@gmail.com]
Sent: Tuesday, June 14, 2011 7:51 PM
To: nepalaso@doeal.gov
Subject: Facility

This proposal appears to be an error of cataclysmic proportions. There are apparently many lifetimes of "pits" already in storage in Texas. We don't need more! And the proposed location is near a fault line - ??????

So we here in New Mexico and the United States could be looking at our own nuclear disaster maybe much worse than Fukushima or Chernobyl. *44-1*

We have a budget crisis - why are we spending billions of dollars that could be used to reduce our debt and prevent collapse of our current economic system. *44-2*

William Reddy

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only the invisible is real

44-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. See Section 2.8, Nuclear Accidents, of this CRD, for more information.

44-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 45: Frank Prideaux

From: Frank Prideaux [sirfrank10@gmail.com]
Sent: Tuesday, June 14, 2011 7:54 PM
To: nepalaso@doeal.gov
Subject: CMRR

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

The CMRR was designed to replace the existing Chemistry and Metallurgy Research Building and serve as the site where they would manufacture “Plutonium Pits”, the fissile “triggers” capable of nuclear capability that initiate the destruction of modern thermonuclear weapons. In other words, they are the heart of every nuclear weapon. The Lab already has the ability to produce 20 pits a year at the CMR building, but if they move ahead and build the new CMRR, they will have the ability to produce 80+ a year. (Currently the Department of Energy has 15,000 pits stored at the Pentax Facility in Texas.) ***45-1***

WHAT YOU NEED TO KNOW:

The original cost of the project: FY2004 Preliminary Full Total Estimated Cost Projection was $400-550 million with a completion date of 2011.

The current cost: The “Details of Project Cost Estimate” table in the FY2012 budget puts CMRR’s current projected cost at $5.86 billion and a completion date of FY2023 - **this is more than ten times the original forecast** - and who knows what the final cost would be if they are given the green light on this project. ***45-2***

Built near a fault line: The worst part of all is that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity.
In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to LANL’s weapons manufacturing complex in a geologically unstable area are just too great.

So we here in New Mexico and the United States could be looking at our own nuclear disaster maybe much worse than Fukushima or Chernobyl. Supposedly the new CMRR building will be able to withstand an earthquake of 7 ***45-3***

45-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL’s pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

45-2 Comment noted.

45-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

45-4 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other

Commentor No. 45 (cont'd): Frank Prideaux

on the Richter scale, but Japan has already had an aftershock from their recent earthquake measuring 7.1. **45-3 cont'd**

None of this even takes into account whether the nuclear weapons work presently done at LANL and our other nuclear weapons facilities violates the Nuclear NonProliferation Treaty. **45-4**

PLEASE STOP!!

Frank Prideaux
xxx-xxx-xxxx

nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 46: Cathi Rodgers

From: Cathi Rodgers [singsongs@earthlink.net]
Sent: Tuesday, June 14, 2011 8:03 PM
To: nepalaso@doeal.gov
Subject: No NUKES in New Mexico or any place else in the world!

Please cancel the the CMRR project! *46-1*

Sincerely,

Cathi Rodgers

46-1 NNSA notes the commentor's opposition to the CMRR-NF project. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort

Commentor No. 47: Mary C. Weeks

From: nepalaso@doeal.gov on behalf of Mary Weeks [mweeks@mchsi.com]
Sent: Tuesday, June 14, 2011 8:16 PM
To: nepalaso@doeal.gov
Subject: Stop the CMRR

Sir:

I understand we have many thousand "pits" in storage in Texas. Can you imagine any foreseeable future where we would have used all of them? What would be left of the world? *47-1*

Please stop this insanity. The cost of this project would be better spent on needed programs for those in need of better health care, education, unemployment benefits or reducing the federal deficit. *47-2*

Mary C. Weeks
Iowa Falls, IA 50126

47-1 NNSA notes the commentor's statement about the plutonium pits in storage at the Pantex Plant. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

47-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 48: Antonia C. Leboffe Tabaku

From: Antonia C Leboffe Tabaku [acleboffe@gmail.com]
Sent: Tuesday, June 14, 2011 8:20 PM
To: nepalaso@doeal.gov
Subject: Re: Replacement Research in New Mexico

Dear Sir,

Why do you wish to destroy this earth? Please noA more Nuclear Disasters! *48-1*

Sincerely,

Antonia C. Leboffe Tabaku

48-1 Comment noted.

Commentor No. 49: Ayman Fadel

From: Ayman Fadel [afadel97@gmail.com]
Sent: Tuesday, June 14, 2011 8:26 PM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement (CMRR) Project in **Los** Alamos, New Mexico

John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office

Dear Mr. Tegtmeir,

The Chemistry and Metallurgy Research Replacement (CMRR) project in Los Alamos, New Mexico should be cancelled.

I oppose all preparations for nuclear weapons, and I ask that the United States begin nuclear disarmament immediately. *49-1*

I'm also concerned about the tremendous cost of this project. The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and a completion date of FY2023 - this is more than ten times the original forecast - and who knows what the final cost might be. *49-2*

It's also disturbing that this facility is sited near a fault line. This raises important safety concerns and no doubt is responsible for the tremendous cost increase. *49-3*

Sincerely,

Ayman Fadel
3503 Lost Tree Ln
Augusta, GA 30907
(xxx) xxx-xxxx

49-1 NNSA notes the commentor's opposition to the CMRR-NF project and concern about nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

49-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

49-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 50: Denis Naeger

From: dnaege02@aol.com
Sent: Tuesday, June 14, 2011 8:31 PM
To: nepalaso@doeal.gov
Subject: CMMR Project

Please cancel the CMMR project in New Mexico or anywhere. We don't need any more nuclear trigger heads at this point in our history.

We are especially concerned about it being so close to a earthquake fault line. Thank you for your consideration.

50-1

Denis Naeger

Sylvan Lake, MI

50-1

NNSA notes the commentor's opposition to the CMRR-NF project. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 51: Richard Wall

From: Richard Wall [Builder_9@msn.com]
Sent: Tuesday, June 14, 2011 8:44 PM
To: nepalaso@doeal.gov
Subject: Triggers

Ladies and gentlemen:

There is no need of a new building (CMRR) for the security of this country. There are ample triggers for nuclear bombs. *51-1*

Thank you.

Respectfully submitted,

Richard Wall
Builder_9@msn.com

51-1 NNSA notes the commentor's opposition to the CMRR-NF project. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 52: Rev. James M. DiLuzio

From: JAMES DILUZIO [jamesdiluziocsp@prodigy.net]
Sent: Tuesday, June 14, 2011 9:09 PM
To: nepalaso@doeal.gov
Subject: CMRR Project in Los Alamos, New Mexico.

To: Mr. John Tegtmeir, U.S. DOE/NNSA Los Alamos Site Office, 3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

Inspired by the International Pax Christi movement, and as an American citizen, I urge you to cancel preparations for the Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico. Before anymore advancement is made, you and your team must commission a study of LANL's plutonium infrastructure- including existing and future capability needs, and submit to our government a realistic cost for maintaining and upgrading safety features at the existing CMR. *52-1*

It has become widespread news that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great. The potential damage to the earth itself and the health of the American people is certainly not worth the benefits of either national security or scientific advancement. *52-2*

I am writing to my US Senators and Congressional representative as well. I hope that by receiving thousands if not million more letters such as these you and our elected officials will halt imminent plans and discern far more carefully all that it at stake in the CMRR project. Thank you.

Sincerely,

Rev. James M. DiLuzio, New York, NY

Rev. James M. DiLuzio C.S.P.
Paulist Fathers
415 West 59TH Street\
New York, NY 10019-1104
xxx-xxx-xxxx extension xxx
www.LukeLive.com
www.Paulist.org

52-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

52-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at

Commentor No. 52 (cont'd): Rev. James M. DiLuzio

LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 53: Bill Uebelher

From: mbu11@q.com
Sent: Tuesday, June 14, 2011 9:21 PM
To: nepalaso@doeal.gov
Subject: New Research Building

Dear Mr. Tegtmeir,

I recently learned about plans to build a new Chemistry and Metallurgy Research Building on your campus where you will increase this nation's ability to produce more fissile triggers for nuclear weapons. I believe that the creation and use (whether potential or real) of nuclear arms is immoral and an act against our common humanity, and think it is an unconscionable use of tax dollars to spend the projected almost six billion dollars to construct this new facility.

I say NO! to erecting this building and ask that you please ground this project before it gets going. I believe strongly that both I personally and we as a nation (and world) must "turn our swords into plowshares and our spears into pruning hooks" to effect things that build us up as a people, not bring us down.

What are ways that you think we could use almost six billion dollars on plowing and pruning activities rather than preparations for bombing and destroying?

53-1

Thank you very much for your thoughts about what I -- and many others -- feel and believe. I look forward to hearing from you.

Sincerely,

Bill Uebelher

2766 South Lamar Street
Denver, Colorado 80227
mbu11@q.com

53-1 NNSA notes the commentor's opposition to nuclear weapons and to the CMRR-NF project. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 54: Kelly Epstein

From: Kelly Epstein [kepstein1@earthlink.net]
Sent: Tuesday, June 14, 2011 9:30 PM
To: nepalaso@doeal.gov
Subject: Cancel CMRR project in New Mexico

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

We do not need a nuclear disaster on American soil. The CMRR project in New Mexico should be canceled and a study of LANL's plutonium infrastructure should be required - including existing and future capability needs. Also, a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. Please let's not court disaster with our current nuclear energy policy. *54-1*

Thank you,

Sincerely,

Kelly Epstein
18319 Champion Forest Dr.
Spring, TX 77379

54-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed, and their concern for U.S. nuclear energy policy. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. U.S. nuclear energy policy is not within the scope of the *CMRR-NF SEIS*.

Commentor No. 55: Sister Constance Charette

From: connie charette [conniecharette@live.com]
Sent: Tuesday, June 14, 2011 9:37 PM
To: nepalaso@doeal.gov
Cc: Senator Scott P. Brown
Subject: CMRR PROJECT

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Sir:

I am writing to urge you to cancel the CMRR project. A study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. *55-1*

The cost of this project is absolutely unthinkable and the location near a majot fault makes it look too much like Japan'e recent catastrophe or Chernobyl's. *55-2*

As a concerned citizen I feel the need to urge you to STOP this project!

Sincerely,

Sister Constance Charette
131 Puritan Ave.
Worcester MA 01604
Member of Pax Christi International

55-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed, and concern about proximity to a major fault. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

55-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the

Commentor No. 55 (cont'd): Sister Constance Charette

existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. See Section 2.8, Nuclear Accidents, of this CRD for more information.

Commentor No. 56: John E. Glenski

From: Jeglenski@aol.com
Sent: Tuesday, June 14, 2011 9:37 PM
To: nepalaso@doeal.gov
Subject: New CMRR Building @LANL

John; If the new CMRR facility current projected cost is $5.8 billion to produce 80 pits/yr surely this facility should not be built. If presently we have 15,000 pits already in storage, common sense would says this is a tremedous misuse of government funds being used to produce pits that are not needed. If projected use of pits is 80/yr it will take 15,000\80 or almost 200 years to use up what we have already on hand. Please do not request funding for this project. ***56-1***

Sincerely,

John E. Glenski
6500 N. Grand Ave.
Gladstone, MO 64118

56-1 NNSA notes the commentor's concern about plutonium pit production and the large number of pits in storage. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 57: Tina H. Blackburn

From: NEPALASO@doeal.gov on behalf of Tina Blackburn [tinahb7@yahoo.com]
Sent: Tuesday, June 14, 2011 9:51 PM
To: NEPALASO@doeal.gov
Subject: Plutonium plant

My information may be limited, but having attended a lecture about what is going on at the Los Alamos labs, I want to register my horror at the seemingly senseless and thoughtless continuation of building on a site where an earthquake fault exists, and on a layer of soft volcanic ash which can be compacted by the weight of the building. *57-1*

The idea of having plutonium stored within a very short distance of Santa Fe, Albuquerque and Los Alamos is upsetting to say the least. I do not know why we even need plutonium if we are going to cut back on nuclear weapons. *57-2*

STOP IT! You are continuing an outmoded idea and setting up a whole state for disaster.

Tina H.Blackburn
4 Joya Court
Santa Fe, NM 87508

57-1 NNSA notes the commentor's opposition to the CMRR-NF project, and concerns about the proximity to geologic faults. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. A geotechnical report prepared for the Shallow Excavation Option provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy, which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation (Kleinfelder 2007a). The report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]). The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

57-2 NNSA notes the commentor's opposition to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 58: John Rash

From: john rash [picapee@gmail.com]
Sent: Tuesday, June 14, 2011 10:23 PM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement (CMRR) Project in **Los** Alamos, New Mexico.

Please go slowly in light of misjudgment at Fukushima. Mankind stands a chance of being on the losing end of any poor decisions. ***58-1***

John

Sent from my iPad

58-1 NNSA notes the commentor's concern about a Fukushima-type accident affecting the CMRR. The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 59: Geri Collecchia

From: gericolle@aol.com
Sent: Tuesday, June 14, 2011 9:54 PM
To: nepalaso@doeal.gov
Subject: Please cancel the CMRR Project

Dear Mr. Tegtmeir,

The CMRR project should be canceled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. *59-1*

Sincerely,

Geri Collecchia
9709 U.S. Hwy 42
Prospect, KY 40059
(xxx)-xxx-xxxx

59-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 60: bpizzorno@aol.com

From: bpizzorno@aol.com
Sent: Wednesday, June 15, 2011 12:36 AM
To: nepalaso@doeal.gov
Subject: CMRR

The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great. So we could be looking at our own nuclear disaster ***60-1***

None of this even takes into account whether the nuclear weapons work presently done at LANL and our other nuclear weapons facilities violates the Nuclear NonProliferation Treaty. ***60-2***

The CMRR project should be canceled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. ***60-3***

60-1 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

60-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

60-3 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 61: Kenneth A. Lerczak

From: Ken Lerczak [kalerc@chartermi.net]
Sent: Tuesday, June 14, 2011 10:04 PM
To: nepalaso@doeal.gov
Subject: CMRR PROJECT SHOULD BE CANCELLED.....

The CMRR project should be canceled,

and a study of LANL's plutonium infrastructure should be required

- including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. *61-1*

PLEASE....PLEASE

With hope for a planet free of nuclear weapons......let us pray and work..........

Kenneth A. Lerczak

61-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 62: ppattiplcsam@aol.com

From: ppattiplcsam@aol.com
Sent: Wednesday, June 15, 2011 5:42 AM
To: nepalaso@doeal.gov
Subject: ARE YOU KIDDING?

LESS GOVERNMENT UNTIL IT BENEFITS THE CORPORATION? YOUR KIDDING RIGHT? OF COURSE NOT. NOT WITH SUCH CORRUPTION GOING ON IN GOVERNMENT. ITS NOT WE THE CORPORATION, ITS WE THE PEOPLE. GET IT RIGHT. AND STOP THIS VERY KIND OF WASTE. REVOLUTION COMING YOUR WAY.

The original cost of the project: FY2004 Preliminary Full Total Estimated Cost Projection was $400-550 million with a completion date of 2011.

The current cost: The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and a completion date of FY2023 - **this is more than ten times the original forecast** - and who knows what the final cost would be if they are given the green light on this project.

Built near a fault line: The worst part of all is that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great. ***62-1***

62-1 NNSA notes the commentor's opposition to the CMRR-NF project and concerns about geologic faults and earthquake hazards. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 63: Fred Goddard

From: Fred Goddard [fcgoddard@gmail.com]
Sent: Wednesday, June 15, 2011 6:21 AM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement Project

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

I am writing to you with regard to the Chemistry and Metallurgy Research Replacement (CMRR) Project. I understand that ehe CMRR was designed to replace the existing Chemistry and Metallurgy Research Building and serve as the site for manufacturing "Plutonium Pits", the fissile "triggers" capable of nuclear capability that initiate the destruction of modern thermonuclear weapons. ***63-1***

I have read that the original cost of the project: FY2004 Preliminary Full Total Estimated Cost Projection was $400-550 million with a completion date of 2011, while the current projected cost is now at $5.86 billion and a completion date of FY2023. At a time of economic crisis, this is unacceptable. ***63-2***

I also have read that is it built near a fault line. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to Los Alamos Nuclear Lab's weapons manufacturing complex in a geologically unstable area are just too great.

So we could be looking at our own nuclear disaster. Supposedly the new CMRR building will be able to withstand an earthquake of 7 on the Richter scale, but Japan has already had an aftershock from their recent earthquake measuring 7.1. ***63-3***
None of this even takes into account whether the nuclear weapons work presently done at LANL and our other nuclear weapons facilities violates the Nuclear NonProliferation Treaty. ***63-4***

63-1 NNSA notes the commentor's concern about plutonium pit production, cost, seismic hazards, and nuclear proliferation. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

63-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Regarding funding priorities, decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

63-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the

Commentor No. 63 (cont'd): Fred Goddard

For economic, safety and compliance with the Nuclear NonProliferation Treaty, I believe the CMRR project should be canceled, a study of LANL's plutonium infrastructure should be required—including existing and future capability needs—and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. *63-5*

Thank you for your attention to this matter.

Sincerely,

Fred Goddard
499 Fort Washington Ave Apt 3D
New York NY 10033

public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

63-4 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

63-5 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 64: Barbara DePue

From: Barbara DePue [democatsx2@att.net]
Sent: Wednesday, June 15, 2011 6:58 AM
To: nepalaso@doeal.gov
Subject: CMRR

I am writing to ask you to reconsider building the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico. The potential for destruction to humanity and the environment is a price too high to pay. *64-1*

64-1 NNSA notes the commentor's opposition to the CMRR-NF project and their concern for humanity and the environment. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This does not entail adding more nuclear weapons, but rather maintaining the existing stockpile. Chapter 4 of the *CMRR-NF SEIS* presents the potential human health and environmental impacts of the proposed alternatives.

Commentor No. 65: Myrt Rollins

From: Myrt Rollins [mrollins@ezeeweb.com]
Sent: Wednesday, June 15, 2011 8:54 AM
To: nepalaso@doeal.gov
Subject: The Los Alamos Replacement Project

Dear Mr Tegtmeir, Please cancel or postpone the nuclear project. Its costs to the suffering American people of over $5 Billion dollars is not and may never be needed. And it is to be located on a fault line that could lead to future catastrophic consequences for our country. Moreover, it is not in the interest of humanity as a whole and may even add to consideration of additional nuclear armaments. For the good of our people and the good of humanity, Please stop this project. *65-1*

Very sincerely, Mr. Myrt Rollins Breese, Illinois

65-1 NNSA notes the commentor's opposition to the CMRR-NF project and their concerns about cost, proximity to a fault line, and nuclear weapons. See Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This does not entail adding more nuclear weapons, but rather maintaining the existing stockpile.

Commentor No. 66: Sister Ella Binz

From: ellabinz@aol.com
Sent: Wednesday, June 15, 2011 9:06 AM
To: nepalaso@doeal.gov
Subject: CMRR Project

Dear Mr. Tegtmeir:

Peace and all good!

Please cancel the CMRR Project.

A study is needed of LANL's plutonium infrastructure should be required, including existing and future capabilities needs.

Determine a realistic cost for maintining and upgrading safety features athe the existing CMR. *66-1*

We can not continue to build with no regard to the cost in dollars and in life for our planet and all of us.

Please consider my request.

Thank you.

God bless you.

Sr. Ella Binz, OSF

66-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 67: Sister Mary David

From: Mary.David.Hydro [Mary.David.Hydro@saintleo.edu]
Sent: Wednesday, June 15, 2011 9:12 AM
To: nepalaso@doeal.gov
Subject: CMRR

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road|
TA-3 Building 1410
Los Alamos, New Mexico 87544
Fax: 505-667-5948
Email: nepalaso@doeal.gov <mailto:nepalaso@doeal.gov>

Cancel CMRR project! The cost is too great!

The CMRR was designed to replace the existing Chemistry and Metallurgy Research Building and serve as the site where they would manufacture “Plutonium Pits”, the fissile “triggers” capable of nuclear capability that initiate the destruction of modern thermonuclear weapons. *67-1*

As a Catholic nun--I oppose war & uphold the sacredness of life. The following reasons support my plea to Cancel CMRR:
This project is to cost Billions of dollars--a drain on our economy--when there are poor in our own country lacking food, health-care etc. *67-2*

It is a Brain-drain - taking from jobs in life-enhancing fields.

The proposed building site is on a geologic fault--give me a break--Brain drain, already! This will not only endanger others with threatened use of nuclear weapons, but ourselves with a possible disaster like Fukushima or Chernobyl. *67-3*

Does work in our nuclear weapons facilities violate the Non-Poliferation Treaty? *67-4*

I urge you--Reconsider

Cancel CMRR project! The COST is too great!

Peace--to all people!

In Christ,

Sister Mary David, OSB

67-1 NNSA notes the commentor’s opposition to the CMRR-NF project and their concerns about plutonium pit production and nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL’s pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology and Section 2.4, CMR Mission, of this CRD for more information.

67-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

67-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF

Commentor No. 67 (cont'd): Sister Mary David

cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

67-4 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 68: Helen Jacobson

From: Helen Jacobson [hjacobsn@osfphila.org]
Sent: Wednesday, June 15, 2011 9:12 AM
To: nepalaso@doeal.gov
Subject: CMRR--my opinion

Dear Mr. John Tegtmeir:

The CMRR project should be canceled; a study of LANL's plutonium infrastructure should be required - including existing and future capability needs; and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. ***68-1***

Helen Jacobson

68-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 69: Jim Noonan

From: Noonan, James [JNoonan@Maryknoll.org]
Sent: Wednesday, June 15, 2011 9:15 AM
To: nepalaso@doeal.gov
Subject: PLEASE

ATTENTION !!! ATTENTION !!!

PLEASE STOP THE ACTIVITIES OF CMRR !!!!!!! *69-1*

Peace,

Jim Noonan

MARYKNOLL OFFICE FOR GLOBAL CONCERNS

69-1 NNSA notes the commentor's opposition to the CMRR-NF project. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This does not entail adding more nuclear weapons, but rather maintaining the existing stockpile.

Commentor No. 70: Kathy Smith

From: Kathy Smith [kathy@ihmwestallis.com]
Sent: Wednesday, June 15, 2011 10:17 AM
To: nepalaso@doeal.gov
Subject: New CMMR Project in New Mexico

Dear Sir (Mr. John Tegtmeir of the US DOE/NNSA Los Alamos Site Office)

I have just learned about a project that is proposed for your State of Mexico. I reside in Wisconsin, far away from your state, but this project caught my attention for a number of reasons, 3 of which I listed below.

1. This project is about "weapons of destruction"
2. The cost of the project is enormous (in the billions)
3. Our government is in a fiscal crisis of a scope that is historic

I don't usually write politicians - I speak with my vote. There are millions of people on this precious earth of ours, that are starving, without the means to obtain relief. In my conscience this issue is far more important and needs to be addressed now. People who have their needs met (food, shelter, education) are happy people and do not want to war against each other. Please think about this before you work to approve this project. *70-1*

In addition, my understanding is that the project is proposed for an area near a major fault line. Please consider the numerous natural disasters that have occurred in the past 12 months around the world. I'm not a scientist, but this doesn't seem to make sense to me. *70-2*

Thank you for taking the time to read this.

Kathy Smith

Kathy Smith
kathy@ihmwestallis.com
Young Adult & Adult Ministry Director
Immaculate Heart of Mary Parish
1121 South 116th Street
West Allis, WI 53214
xxx-xxx-xxxx xxxx

70-1 NNSA notes the commentor's concerns about nuclear weapons and U.S. government funding priorities. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

70-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 71: Margaret A. Flanagan

From: Ms Margaret Flanagan [margaflan@verizon.net]
Sent: Wednesday, June 15, 2011 10:20 AM
To: nepalaso@doeal.gov
Subject: new plant building and funding

I believe the CMRR project should be canceled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined.

You can already produce 20 pits a year at the existing CMR building, the Department of Energy has 15,000 stored in Texas, there is no need for more. We need less nuclear weapons, not the ability to produce more. *71-1*

The fault lines under the buildings are already a problem, we don't need more! *71-2*

Please consider all this before continuing.

Sincerely yours,

Ms Margaret A. Flanagan
177 East 3rd St. #4A
New York, NY 10009

71-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed, and concerns about plutonium pit production, and proximity to geologic fault lines. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

71-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 72: Linda De Sitter, MD

From: Linda De Sitter [desitter@gorge.net]
Sent: Wednesday, June 15, 2011 10:30 AM
To: nepalaso@doeal.gov
Subject: Don't build expensive new CMRR

Dear Mr. Tegtmeir,

Please don't spend money that we need (for education and health) on building nuclear pits that we don't need. Furthermore, building it near a fault line is just plain irresponsible. As a physician, I can't imagine how anyone with a concern for the public welfare would conceive of this project as being a good idea. ***72-1***

Linda De Sitter MD
Hood River, Oregon

72-1 NNSA notes the commentor's concerns about funding choices and building nuclear weapon pits. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 73: Elaine Hagopian, Ph.D.

From: ELAINE HAGOPIAN [echagop@verizon.net]
Sent: Wednesday, June 15, 2011 10:43 AM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement (CMRR) Project

Please be responsible and do not build this plant. Placing it on a fault line, and paying billions of dollars for it equal another Fukushima. Have we learned nothing from the Japanese tragedy? Is there not better social use for all that money? *73-1*

Listen to the public, listen to conscience.

Elaine Hagopian, Ph.D.
Professor Emeritus of Sociology
Simmons College, Boston

73-1 NNSA notes the commentor's request that the CMRR-NF not be built, and their concerns about proximity to a fault line, and U.S. Government funding priorities. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 74: Rosemary English

From: rce6770@aol.com
Sent: Wednesday, June 15, 2011 10:44 AM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement Project

Dear Mr. Tegtmeir,

I am concerned about what I have learned about the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico. The current cost of the project far exceeds the original cost; it is being built near a fault line; and it is questionable whether the work done in this facility adheres to our obligations under the Nuclear NonProliferation Treaty. I believe you should consider these conditions in determing whether or not to go ahead with this project. *74-1*

Rosemary English

74-1 NNSA notes the commentor's concerns about the cost of the CMRR-NF, its proximity to a fault line, and its compliance with the Nuclear Nonproliferation Treaty. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 75: Ken Fredgren

From: K. Fredgren [fredgren.k@gmail.com]
Sent: Wednesday, June 15, 2011 11:03 AM
To: nepalaso@doeal.gov
Subject: Cancel the CMRR

Please cancel the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico.

Not only is it a dangerous location, but it is about war and it has a current price tag of 5.86 billion and a completion date of FY2023 - this is more than ten times the original forecast. ***75-1***

Ken Fredgren
Reston, VA

75-1 NNSA notes the commentor's request that the CMRR-NF project be cancelled, and the concern that it is in a dangerous location. The site location and environmental hazards are factored into and accounted for in the design, construction, and operation of the CMRR-NF. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, and Section 2.8, Nuclear Accidents, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. The decision will be announced in a ROD that will appear in the *Federal Register*. In accordance with NEPA regulations, the ROD cannot be issued any earlier than 30 days after publication of the *Final CMRR-NF SEIS*.

Commentor No. 76: Beth Olson

From: Beth Olson [betholson1@hotmail.com]
Sent: Wednesday, June 15, 2011 11:15 AM
To: nepalaso@doeal.gov
Subject: Stop the proposed CMRR Project

The Chemistry and Metallurgy Research Replacement project should be canceled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. *76-1*

There are better, safer, cheaper alternatives.

Beth Olson
Sanger, California

76-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 77: Douglas R. MacDonald

From: Douglas MacDonald [macdonald.dr@gmail.com]
Sent: Wednesday, June 15, 2011 12:50 PM
To: ksmith2@doeal.gov
Cc: NEPALASO@doeal.gov
Subject: Comments RE: CMRR

Kevin,

This correspondence is intended to serve as my public comment concerning the proposed construction of a new CMRR building at LANL. I am Douglas R. MacDonald, residing at 193 Piedra Loop, Whiterock/Los Alamos, New Mexico. I have been in attendance of one "Public Hearing", reviewed numerous technical documents and read several newspaper articles relating to the construction of a new CMRR building proposed to be located within the Pajarito Corridor at LANL. From what I have gathered, most of the comments in support of the CMRR proposal are specific to short-term economic gains for Northern New Mexico, which will be created by the construction project, such as jobs and dollars into the community and surrounding area. The majority of the dissenting comments seem to center around opposition to the weapons program; certainly valid concerns, however, the construction of a new CMRR building really becomes secondary to that point of dissension and frankly, moot.

With respect to the economic gain discussion, building this new CMRR facility will certainly be of tremendous benefit to Northern New Mexico, actually all of New Mexico's labor force as well as the business folks, however, it will be a short-term gain. With respect to the "weapons" philosophy perspective, perhaps our nation does need to re-evaluate our weapons programs. However, by building this new CMRR complex, I suspect that re-evaluation of the weapons program will in fact become one of the prime objectives of this facility.

I see at minimum, two very important and critical areas negatively impacted if this construction project is not built; namely the long-term negative impacts on the future of nuclear science/associated scientific disciplines and secondly, our national security. The mission of "National" security and "World" security could, no, would, be compromised without this new CMRR facility. The multitude of scientific discoveries resulting from the construction of this state of the art research facility will not be limited to nuclear alone, those associated discoveries will without question transcend the intended mission, stimulate and challenge other science research programs and create new cultures of scientific exploration for the future science pathfinders of generations to come.

77-1

77-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative and the Modified CMRR-NF Alternative would require a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico, as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 77 (cont'd): Douglas R. MacDonald

In conclusion, I support the CMRR construction project. I have confidence that the appropriate safety considerations of the workers and citizens of the surrounding communities, along with the environment, will continue to be a DOE and LANS priority, and I truly believe this project is in the best interest of our nation from a security, as well as a scientific perspective. 77-1 cont'd

Thanks,

Douglas R. MacDonald
193 Piedra Loop
Los Alamos, New Mexico
87544
xxx.xxx.xxxx land
xxx.xxx.xxxx air

Response side of this page intentionally left blank.

Commentor No. 78: Patricia and Hugh Goley

From: HUGH GOLEY [hpgoley@optonline.net]
Sent: Wednesday, June 15, 2011 1:07 PM
To: nepalaso@doeal.gov
Subject: RE: No Fukushima in New Mexico! Take action now!

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544
Fax: 505-667-5948
Email: nepalaso@doeal.gov

Email: nepalaso@doeal.gov

Dear mr. Tegtmeir: We are residenets of New York and are letting you know we are very much against building you CMRR's current buildings 2/3s of a mile from a geologic fault line. Let's learn from the disaster in Japan. Please do not do this. Sincerely, Patricia and Hugh Goley ***78-1***

rie | PA | 16502

78-1 NNSA notes the commentors' request that the CMRR-NF not be built and their concern about the proximity to a geologic fault. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 79: Lloyd E. Opoka

From: Fr. Lloyd Opoka [leopoka@kc.rr.com]
Sent: Wednesday, June 15, 2011 1:22 PM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement (CMRR)

Please do NOT build this facility. It is not needed, extremely dangerous and too expensive. Sincerely, Lloyd E. Opoka, Kansas City, MO. ***79-1***

79-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 80: Deacon Jim McFadden

From: Jim McFadden [macfam500@att.net]
Sent: Wednesday, June 15, 2011 2:16 PM
To: nepalaso@doeal.gov
Subject: "Plutonium Pits" & Nuclear stockpiling

Dear Mr. Tegtmeir,

As an American Catholic, I object to the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, NM.

According to the "Compendium of the Social Doctrine of the Church," the Church's social teaching proposes the goal of "general, balanced and controlled disarmament. The enormous increase in arms represents a grave threat to stability and peace. The principle of sufficiency, by virtue of which each State may possess only the means necessary for its legitimate defense, must be applied both by States that buy arms and by those that produce and furnish them. Any excessive stockpiling...in arms cannot be morally justified" (#508). ***80-1***

The move to build 80+ "Plutonium Pits" is a movement towards stockpiling rather than disarmament and cannot be morally justified.

Peace and good will,

Deacon Jim McFadden

80-1 NNSA notes the commentor's objection to the CMRR-NF and concerns about excessive stockpiling. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 81: Elizabeth Rogers

From: Elizabeth Rogers [srbetty@cenaclesisters.org]
Sent: Wednesday, June 15, 2011 2:26 PM
To: nepalaso@doeal.gov
Subject: CMRR et al

I am writing to urge you to cancel the CMRR project, LANL's plutonium infrastructure should be required, and a realistic cost for maintaining and upgrading safety features at the existing CMR should be determined.

The CMMR project goes against the official position of the present administration that nuclear weapons should be gradually done away with. In addition, it has become way too costly in a time when our debts are so great that we are asked to raise the debt ceiling even though it will diminish our credit around the world.

A study of the LANL plutonium structure is needed and should include existing and future capability needs.

The main expense that can be justified, in my opinion, is that of upgrading safety features at the existing CMR. *81-1*

Deliver us and the whole world from the constant threat of a nuclear holocaust or another Fukushima! Now is the time. *81-2*

Respectfully,

Elizabeth Rogers
Gainesville, FL 32601

81-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed, and concern about nuclear weapons. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

81-2 The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 82: Elizabeth Brockway

From: Beth Brockway [abbrockway@gmail.com]
Sent: Wednesday, June 15, 2011 2:48 PM
To: nepalaso@doeal.gov
Subject: CMRR Project in Los Alamos, New Mexico

Mr. John Tegtmeir,

I would like to share my feelings with you about this project. It is my belief that the CMRR project should be cancelled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. We need to have a high value for human lives and based on the information I have obtained regarding this project, I do not feel that the value of human lives is being considered. *82-1* Building a nuclear facility close to a geological fault line would be very risky, especially considering the earthquake that occurred in Japan a few months ago. Please reconsider going forward with this project. Thank you for your time. *82-2*

Elizabeth Brockway
430 W. 5th St.
Perrysburg, OH 43551

82-1 NNSA notes the commentor's opposition to the CMRR-NF project and suggestion that a plutonium infrastructure study be performed, and their concerns about human health and proximity to a geologic fault. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

82-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 83: Sister Maryann Mueller

From: Sr. Maryann Mueller [MuellerM@felician.edu]
Sent: Wednesday, June 15, 2011 3:21 PM
To: nepalaso@doeal.gov

Please cancel the proposed CMRR project which is against the nuclear nonproliferation treaty. ***83-1***

Sister Maryann Mueller

Justice and Peace Coordinator
Our Lady of Hope Province

“Nowadays, the world does not need words but lives that cannot be explained except through faith and love for Christ’s poor.”

Pedro Arupe

____

This outgoing email has been scanned by the MessageLabs Email Security System for Felician College.

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83-1 NNSA notes the commentor’s opposition to the CMRR-NF project. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.1, Opposition to the CMRR-NF Nuclear Weapons, and Nuclear Technology, and Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 84: Sally Chappell

From: Sally & Jon [jschap@localnet.com]
Sent: Wednesday, June 15, 2011 5:26 PM
To: nepalaso@doeal.gov
Subject: CMRR building

Hello,

I have learned about the proposed construction of a new CMRR building at the Los Alamos National Laboratory and would like to register my disapproval of this project because of safety reasons, cost and increased proliferation of nuclear weapons. This project needs to be cancelled. ***84-1***

Sally Chappell
Bridgton, ME

84-1 NNSA notes the commentor's opposition to the CMRR-NF project and concerns about safety, cost, and nonproliferation. The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This does not entail adding more nuclear weapons, but rather maintaining the existing stockpile.

Commentor No. 85: Sister Janice Thome

From: Janice Thome [presence@odsgc.net]
Sent: Wednesday, June 15, 2011 8:26 PM
To: nepalaso@doeal.gov
Subject: please STOP

I wish to voice my vote that the CMRR not be built.

The Nuclear NonProliferation Treaty still stands and I want my country to live up to it. *85-1*

The geographic fault line that is less than a mile away shouts out for caution less we cause another nuclear disaster even worse than that in Japan. *85-2*

Why would we ever need to make 80 or more pits a year? We already have 15,000 and make 20 more each year. Why polute our earth with the capability to destroy us many times over?

In our economic crisis, I think it immoral to waste so much time, money and human energy on something that will not feed or give necessities to anyone. Furthermore it is set only to destroy us. *85-3*

PLEASE STOP THE PLAN ALL TOGETHER AND FOCUS ON THE HEALTH OF OUR EARTH.

Sister Janice Thome
1002 Gillespie
Garden City KS. 67846

85-1 NNSA notes the commentor's request that the CMRR-NF not be built, and their concerns about nonproliferation, proximity to a geologic fault, pit production, and funding priorities. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

85-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

85-3 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in

Commentor No. 85 (cont'd): Sister Janice Thome

Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 86: Paul Helbling

From: KATHLEEN HELBLING [kandpinohio@embarqmail.com]
Sent: Wednesday, June 15, 2011 9:26 PM
To: John Tegtmeir
Subject: Common Sense

June 15, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544
Fax: 505-667-5948

Dear Sir:

86-1 If the US government has 15,000 Plutonium pits already in storage and the ability to add 20 per year to this inventory, why does the government need a new Chemistry and Metallurgy Research Building (CMRR) to build 80 plus Plutonium pits per year?

Common sense, in my opinion, would suggest that a new CMRR is not needed.

Especially since, the new enemy facing the security of our country is our national debt. Please pray on this issue. Help our country balance our budget with sound finical decisions in order to control the national debt if not for us then our grandchildren and great grandchildren.

Our prayers are with you on this issue.

Paul Helbling
T606 St. Rt. 109
Liberty Center, Ohio
43532-9720

xxx-xxx-xxxx

86-1 NNSA notes the commentor's concern that the CMRR-NF may not be needed, and concerns about pit production and funding priorities. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 87: Rev. Ronald A. Richardson

From: RONALD RICHARDSON [raidan@prodigy.net]
Sent: Wednesday, June 15, 2011 9:45 PM
To: nepalaso@doeal.gov
Subject: CMRR building

Dear Sir,

I am a member of Pax Christi USA, a Catholic peace group. We have heard from our New Mexico affiliate that the US Government is planning to replace the original CMR building with an updated version costing over five billion dollars.

87-1 Sir, I oppose this effort and urge you to enter into dialogue with your superiors in the government in an effort to educate them in the concerns and fears of ordinary citizens as our country moves forward in this direction while giving mixed signals to the world about our peaceful intentions in regard to the control of nuclear weapons.

I'm sure you are in a difficult spot. You'll be in my thoughts and prayers as you deliberation this issue and opposition to it.

Sincerely,

(Rev.) Ronald A. Richardson
Southold, NY

87-1 NNSA notes the commentor's opposition to the CMRR-NF project and concerns about the United States giving mixed signals regarding nonproliferation. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. See Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 88: Carolyn Modeen

From: modeen Carolyn [ctmodeen@royaloakslife.net]
Sent: Wednesday, June 15, 2011 10:48 PM
To: nepalaso@doeal.gov
Subject: Replacing the Chemistry and Metallurgy Research Bldg

We need fewer nuclear capability products, rather than more and more. A new and larger building for creating these nuclear products, especially so near a fault zone, is unwise and irresponsible. *88-1*

Please, rethink what course to take on this. Thank you.

Carolyn Modeen Sun City AZ 85351

88-1 NNSA notes the commentor's concerns about construction of additional nuclear products capabilities near a fault zone. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This does not entail adding more nuclear weapons, but rather maintaining the existing stockpile. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 89: Rebecca Marek

From: Rebecca Marek [rsmarek@gmail.com]
Sent: Thursday, June 16, 2011 8:47 AM
To: nepalaso@doeal.gov
Subject: Proposed Chemistry and Metallurgy Research Replacement Project

Hello.

I was recently informed about the Proposed Chemistry and Metallurgy Research Replacement Project in Los Alamos.

The information I have received has been largely negative; I was hoping you could direct me to information that would speak to the benefits of such a project? ***89-1***

Thank you for your time,

Rebecca

89-1 Benefits of the proposed project are described in the *CMRR-NF SEIS* Summary, in the Overview, and Sections S.1, Introduction; S.2, Background; and S.3, Purpose and Need for Agency Action. The CMR is almost 60 years old and near the end of its useful life. Many of its utility systems and structural components are aged, outmoded, and deteriorated. Recent geological studies identified a seismic fault trace located beneath two of the wings of the CMR Building, which raised concerns about the structural integrity of the facility. Over the long term, NNSA cannot continue to operate the mission-critical CMR support capabilities in the existing CMR Building at an acceptable level of risk to worker safety and health. NNSA has already taken steps to minimize the risks associated with continued operations at the CMR Building. To ensure that NNSA can fulfill its national security mission for the next 50 years in a safe, secure, and environmentally sound manner, NNSA has proposed to construct a CMR replacement facility, known as the CMRR, as a necessary step in maintaining critical analytical chemistry and materials characterization capabilities at LANL. For further detail, refer to Chapter 1, Introduction and Purpose and Need for Agency Action, of the *CMRR-NF SEIS*.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapon stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This does not entail adding more nuclear weapons, but rather maintaining the existing stockpile

Commentor No. 90: Patricia and Daniel Driscoll-Shaw

From: Dan Driscoll-Shaw [drishaw@sbcglobal.net]
Sent: Friday, June 17, 2011 10:40 PM
To: nepalaso@doeal.gov
Subject: CMRR PROJECT: LOS ALAMOS

Sir,

Please halt the construction of the Chemistry and Metallurgy Research Building in Los Alamos. I say this for two reasons.

First, we need to move towards nuclear disarmament as President Obama has said. Producing more parts for these weapons makes no sense. *90-1*

Second, this project is way over budget and as we talk about stopping the deficit bleeding, how can we possibly continue to spend money on this project?

Thank you for taking these ideas into consideration.

Patricia & Daniel Driscoll-Shaw

90-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 91: Kathleen Bovello

From: JRC20815@aol.com
Sent: Thursday, June 16, 2011 10:14 AM
To: nepalaso@doeal.gov
Subject: CMRR

The current cost: The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and a completion date of FY2023 - this is more than ten times the original forecast - and who knows what the final cost would be if they are given the green light on this project.

Built near a fault line: The worst part of all is that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great. ***91-1***

So we here in New Mexico and the United States could be looking at our own nuclear disaster maybe much worse than Fukushima or Chernobyl. Supposedly the new CMRR building will be able to withstand an earthquake of 7 on the Richter scale, but Japan has already had an aftershock from their recent earthquake measuring 7.1. ***91-2***

None of this even takes into account whether the nuclear weapons work presently done at LANL and our other nuclear weapons facilities violates the Nuclear NonProliferation Treaty. ***91-3***

Let's not go ahead with this. ***91-1 cont'd***

sincerely

Kathleen Bovello
Chevy Chase MD

91-1 NNSA notes the commentor's opposition to building and operating the CMRR-NF and that the commentor is concerned that building in a geologically unstable area or near a fault was a principal factor in the increased cost of the project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*).

Commentor No. 91 (cont'd): Kathleen Bovello

91-2 NNSA notes the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

91-3 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 92: Sue Becker

From: Sue Becker [bobnsuzynaz@cox.net]
Sent: Thursday, June 16, 2011 11:08 AM
To: nepalaso@doeal.gov
Subject: Nuclear Proliferation

Please, for the sake of our children and grandchildren, for all of us, cancel the CMRR project. We do not need weapons of mass destruction in the U.S. andy more than they should have them in Iraq. What a double standard. ***92-1***

Sue Becker
9870 W. Highwood Ct.
Sun City, AZ 85373

92-1 NNSA notes the commentor's opposition to the CMRR-NF project and addresses such concerns in Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

Commentor No. 93: Anne J. Van Lanen

From: AJ [sraj@charter.net]
Sent: Thursday, June 16, 2011 11:51 AM
To: nepalaso@doeal.gov

Mr. Tegtmier,

Please, be aware and discontinue the efforts at further nuclear development by the fault line in New Mexico!! Please, let these monies go to feeding and educating the hungry of the world!

Let Japan be an example and warning to us here in the U.S. Thank you.

Anne J. Van Lanen

93-1

93-1 NNSA notes the commentor's opposition to the CMRR-NF project.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA also notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, education and welfare) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The commentor's concerns that an accident (similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant) could happen at LANL is addressed in Section 2.8, Nuclear Accidents, of this CRD. There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant or Chernobyl) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information

Commentor No. 94: Marietta Charbonneau

From: Charreagan@aol.com
Sent: Thursday, June 16, 2011 1:20 PM
To: nepalaso@doeal.gov
Subject: CMRR PROJECT IN NEW MEXICO

To Mr. John Tegtmeir,

I stand with all Americans who protest the proposed Chemical and Metallurgy Replacement Project in Los Alamos. After seeing the Fukushima disaster, I feel that this site is too unstable to support this type of project. Also, I strongly object to the amount of money being spent when so many Americans are out of jobs at this time.

I hope all involved will stop and reconsider LOCATION and COST.

94-1

Sincerely,

Marietta Charbonneau, MA, SFO

94-1 NNSA notes the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant nuclear reactor site could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 94 (cont'd): Marietta Charbonneau

Lastly, the commentor's concern regarding the funding priorities of the U.S. Government is noted. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 95: Joy Aspenall

From: Joy Aspenall [jaea@aol.com]
Sent: Thursday, June 16, 2011 1:41 PM
To: nepalaso@doeal.gov
Subject: CMRR Project

Dear Mr.Tegtmeir,

I am writing to express my most emphatic opposition to the CMRR project.

First, on the grounds that the new CMRR building is 2/3 mile from a fault line.

Secondly, on the grounds the expense is outrageous and unjustifiable. *95-1*

Third, and most important of all, it is time to be spending our human, financial and material resources finding ways to halt the threat that the nuclear industry in total creates. In summary, this is morally unacceptable.

Thank you for your time and consideration.

Sincerely,

Mrs. Joy Aspenall
San Jose, CA
jaea@aol.com

95-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Regarding cost and funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. .

Commentor No. 96: Dr. Finian D. Taylor

From: Finian Taylor [fintaylor@hargray.com]
Sent: Thursday, June 16, 2011 2:02 PM
To: nepalaso@doeal.gov
Subject: CMRR

Friends:

I understand from the national press that a new CMRR bulding is being planned.

This is abominable.

1. The CMRR is not needed.
2. The cost is outrageous.
3. The project is a violation of the Non-Proliferation Treaty.

96-1

Dr. Finian D. Taylor
412 Marsh Pt.
Hilton Head SC 29926

96-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Lastly, current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 97: Carol Stenger

From: Carol Stenger [carolstngr@yahoo.com]
Sent: Thursday, June 16, 2011 3:38 PM
To: nepalaso@doeal.gov

To Whom It May Concern,

The proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico should be canceled. First, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. The CMRR was designed to replace the existing Chemistry and Metallurgy Research Building and serve as the site where they would manufacture "Plutonium Pits", the fissile "triggers" capable of nuclear capability that initiate the destruction of modern thermonuclear weapons. In other words, they are the heart of every nuclear weapon. The Lab already has the ability to produce 20 pits a year at the CMR building, but if they move ahead and build the new CMRR, they will have the ability to produce 80+ a year. (Currently the Department of Energy has 15,000 pits stored at the Pentax Facility in Texas.) *97-1*

With the cost astronomical, I believe that this is another reason why it should be cancelled. *97-2*

Please consider this request as a way to save our planet and protect the environment and our people.

Thank you for your consideration in this matter.

Sincerely,

Sr. Carol

"Do you really need to print this email? Think green!
The Sisters of Divine Providence support the conservation of God's resources."

Carol Stenger, CDP
9000 Babcock Blvd.
Allison Park, PA 15101
412-635-5412
carolstngr@yahoo.com
http://www.divineprovidenceweb.org
Eph 3: 20 "Glory be to God whose power working in us can do infinitely more than we can ask or imagine."

97-1 NNSA notes the commentor's opposition to the CMRR-NF project. Regarding the commentor's request to perform a plutonium infrastructure study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF.

97-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 98: Mary Smith
Church Women United in New York State

From: Mary Smith [smithmarym@yahoo.com]
Sent: Thursday, June 16, 2011 6:57 PM
To: nepalaso@doeal.gov
Cc: Barbara Williams
Subject: We don't need/want more nuclear plants

The original cost of the project: FY2004 Preliminary Full Total Estimated Cost Projection was $400-550 million with a completion date of 2011.

The current cost: The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and a completion date of FY2023 - this is more than ten times the original forecast - and who knows what the final cost would be if they are given the green light on this project.

Built near a fault line: The worst part of all is that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great. ***98-1***

Sent on behalf of Church Women United in New York State

98-1 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA notes the commentor's concern about the cost of the new facility. Cost of constructing and operating the CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 99: Daniel Heuer

From: Daniel Heuer [heuerdg@comcast.net]
Sent: Thursday, June 16, 2011 10:42 PM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy Research Replacement

To: Mr. John Tegtmeir

I live in Windsor , Connecticut and am writing regrading the Chemistry and Metallurgy Research Replacement (CMRR) that is proposed for expansion in Los Alamos.

I am writing to urge that the CMRR project be canceled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. The project is slated to cost much more than the original proposal. *99-1*

The worst part of all, however, is that the proposed site for the new CMRR building is only 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. *99-2*

Once again, I urge you to cancel this expansion project. The United States needs to learn from the recent nuclear disaster in Japan. We need to take appropriate measures to avert future disasters. At this time with the extremely depressed economy in our we cannot afford to spend large sums of taxpayer funds to create dangerous new project. *99-3*

Daniel Heuer.
520 Stillwater
Windsor, CT. 06095

99-1 NNSA notes the commentor's opposition to the CMRR-NF project. Regarding the commentor's request to perform a plutonium infrastructure study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

99-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground

Commentor No. 99 (cont'd): Daniel Heuer

motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*).

99-3 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Regarding project cost and funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 100: John J. Furlong

From: JJfu@aol.com
Sent: Friday, June 17, 2011 9:02 AM
To: NEPALASO@doeal.gov
Subject: Nuclear plants

Anyone who would create what he/she cannot destroy is a fool. That is the case with those who create nuclear weapons; or power plants. The resulting waste is indestructible and will be poisoning this earth for 10,000 years after we are all dead. Find a better way. *100-1*

Sincerely

John J. Furlong
jjFU@aol.com

100-1 NNSA notes the commentor's opposition to the existence of nuclear weapons and nuclear power plants. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 101: Robert Lincoln

From: bob linc [guess7808@yahoo.com]
Sent: Friday, June 17, 2011 9:19 AM
To: nepalaso@doeal.gov
Subject: CMRR

I am writing to urge the DOE that, in these times of budget problems, the CMRR project should be canceled. Also a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. ***101-1***

Sincerely Robert Lincoln
194 Columbian Ave.
Rutland, Vt 05701

101-1 NNSA notes the commentor's opposition to the CMRR-NF project. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA notes the commentor's opposition to the CMRR-NF project. Regarding the commentor's request to perform a plutonium infrastructure study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 *FR* 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 102: Minga Claggett-Borne

From: Minga Claggett-Borne [minga@thebornes.org]
Sent: Friday, June 17, 2011 11:29 AM
To: nepalaso@doeal.gov
Subject: New energy needed

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

I'm writing to you in the beginning of a gorgeous summer. I'm so grateful for the trees, the soft wind, the glory of this green planet.

Please don't blow it!! The current CMRR project in Los Alamos needs to be curtailed and safety mechanisms need to be explained to the public. I live far away in New England and I'm extremely concerned. Do not place your hopes on nuclear weapons. No more building at CMRR plutonium pits and triggers. Please cancel your proposed building project. Please explain to me and other citizens your best practices for safety at the existing site. *102-1*

Thank you for your good works,

Minga Claggett-Borne, LMFT
xxx xxx-xxxx
www.pedalseeds.net
Donde hay la Verdad y amor , siempre hay libertad.

102-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Safety is a high priority for NNSA. NNSA requires its contractors to manage and operate NNSA sites and perform work in accordance with regulations, DOE Orders, and standards that include requirements to ensure protection of workers, the public, and the environment.

Commentor No. 103: Eleanor MacLellan

From: Eleanor MacLellan [elmac185@yahoo.com]
Sent: Friday, June 17, 2011 12:41 PM
To: nepalaso@doeal.gov
Subject: CMRR

Your Lab already has the ability to produce 20 plutonium pits a year at the CMR building, but i f you move ahead and build the new CMRR, you will have the ability to produce 80+ a year. The Department of Energy already has 15,000 pits stored at the Pentax Facility in Texas. This is not acceptable. The danger of a U.S. Fukushima or Chernobyl is too great. AND the danger of using the plutonium for nuclear weapons is too great!! *103-1* *103-2*

The original cost of the project for FY2004 Preliminary Full Total Estimated Cost Projection was $400-550 million with a completion date of 2011. The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and a completion date of FY2023 - this is more than ten times the original forecast - and who knows what the final cost would be if they are given the green light on this project.

The worst part of all is that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007 showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great. *103-3*

Therefore, I beg you NOT to go ahead with this project. Thank you, *103-1 cont'd*

Eleanor MacLellan, Cambridge, MA.

103-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

103-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10 of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

103-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the CMRR-NF SEIS. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building

Commentor No. 103 (cont'd): Eleanor MacLellan

location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*).

Commentor No. 104: Sister Danat Marie Brysch

From: S Danat Marie Brysch [sdanatmarie@feliciansisters.org]
Sent: Friday, June 17, 2011 1:26 PM
To: nepalaso@doeal.gov
Subject: Los Alamos plutonium pits

The Chemistry and Metallurgy Research (CMRR) project planned for Los Alamos is designed to produce "Plutonium Pits" which is used to trigger nuclear weapons. The chosen site is seismologically unstable. In fact, there is no truly safe place on this active planet to store such materials. As a country we need to be more responsible regarding handling all nuclear materials whether raw material, products, or waste. ***104-1***

Sincerely,

Sr. Danat Marie Brysch
Felician Sisters

104-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

All radioactive waste generated as part of activities at the CMRR-NF and elsewhere at LANL will be managed in a manner that is protective of public health and safety and the environment, and in compliance with Federal and state standards. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

Commentor No. 105: John August Swanson

From: John A Swanson [johnaswanson@sbcglobal.net]
Sent: Friday, June 17, 2011 1:50 PM
To: nepalaso@doeal.gov
Subject: Note from a citizen

June 17, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir:

I wanted to write to let you know that I oppose the construction of the CMRR (Chemistry and Metallurgy Research Replacement) Project in Los Alamos, New Mexico. It is ludicrous to believe that the 15,000 stockpiled Plutonium Pits, in addition to your current production capacity, in addition to the fully armed nuclear weapons the US has deployed around the world, are insufficient to the cause of destroying the earth many times over. What possible benefit can Americans, or anyone else, expect to derive from your plan to create even more fissile triggers? *105-1*

No good can come from this project. Billions of dollars that could be better spent on nearly anything will be turned into more weapons than could ever be used. Please cancel this project.

Yours sincerely,

John August Swanson

The Studio of John August Swanson
8417 Holy Cross Place
Los Angeles, CA 90045
xxx.xxx.xxxx

May God bless us with enough foolishness to believe that we really can make a difference in this world, so that we are able, with God's grace, to do what others claim cannot be done.

- Four-fold Franciscan Blessing

105-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Regarding project cost and funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 106: Patrick Grace

From: Patrick Grace [pgrace116@gmail.com]
Sent: Sunday, June 26, 2011 12:28 AM
To: NEPALASO@doeal.gov
Subject: LANL

to whom it may concern,

i am a taos county resident who opposes the expansion of LANL. First of all, the continued production of nuclear armaments defies logic. the cold war is over. nuclear weapons represent all that is wrong with humanity. it is one thing to annihilate human life, and another to annihilate ALL LIFE. This is unacceptable. Nobody wins in a nuclear war. *106-1*

The continued threat posed by the LANL facility to the residents of northern new mexico is serious. i live downwind from the laboratory, and find the reality of an accident sobering. nuclear material does not go away. it stays in the environment for decades and decades to come. The lab is a great source of income for our otherwise poor region, but i find that the short-term gains are outweighed by the consequences of a simple miscalculation or mistake. do we really need to manufacture nukes? can't we spend our money more wisely? I personally feel that the spirit of the American people is transcendent to our current state of affairs. We do not need nukes. If a conflict arises i believe that we are capable of resistance. But are we the aggressors? If there was a need for physical force, if the situation arose where folks were needed to defend our great country I would gladly answer the call. I believe in our commonwealth, i believe in the good of humanity. i do not believe in the continued production of nuclear weapons. *106-2*

please see beyond the short-term economic growth, and invest my money in something worthwhile, like a future for america, for example education. if we managed our federal money more wisely we wouldn't be in this state of affairs. thank you for your time, and i hope you do not continue with the proposed expansion *106-3*

-sincerely, patrick grace

106-1 NNSA notes the commentor's opposition to the CMRR-NF project at LANL and the continued production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the CMRR-NF SEIS, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

106-2 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

106-3 Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 107: Sister Aquinas

From: smaquinas@feliciansisters.org
Sent: Friday, June 17, 2011 10:47 PM
To: nepalaso@doeal.gov
Subject: cmmr project

Dear Sir,

I am writing to ask you to cancel the CMMR project in New Mexico for the sake of the common good of humanity. I know little of politics and the nuclear world but I support human life and care for the earth and its inhabitants. ***107-1***

God bless you as you work for the good of all.

Sister Aquinas

107-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 108: John Witham

From: John Witham [7john3@gmail.com]
Sent: Friday, June 24, 2011 5:32 PM
To: John Tegtmeier
Cc: John Witham
Subject: CMRR-NF SEIS Comments

6/24/2011

Mr. John Tegtmeier, CMRR-NF SEIS Document Manger, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

108-1

1. A Complete, New Environmental Impact Statement is Needed, Not A Supplemental Environmental Impact Statement. The original Environmental Impact Statement in 2004 assessed a building designed to withstand only mild seismic events. A 2007 updated seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. Los Alamos National Lab sits between the Rio Grande rift and the volcanic Jemez Mountains in a seismic fault zone. Only a full Environmental Impact Statement can adequately study the full consequences of increased possibility seismic events might have on the proposed bomb plant.

108-2

- A new business case is needed. Decisions made in 2004 EIS are outdated. Choice of NF is based on 2007 costs before NF ballooned to $6B.
- The wrong Question is being asked. Should be – What is the most efficient way to take care of NNSA's stockpile needs? Not - What size and where shall the NF be built?

108-3

2. Real Alternatives Must Be Considered in the Supplemental Environmental Impact Statement. DOE must develop and consider new alternatives, including a true "No Action" alternative--not building the Nuclear Facility; and upgrading the existing plutonium production building.

- Two of the Alternatives given in this draft are so bad that they cannot really be considered alternatives
- The current "No Action" Alternative is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 CMRR EIS. But based on new information learned since 2004, the 2004 CMRR-NF would not meet seismic standards to safely conduct mission work. "Therefore, the 2004 CMRR-NF would not be constructed". (Pg. S-8)
- So this is not really an alternative.
- The Continued Use of CMR Building Alternative In this current EIS states: Do not construct a replacement facility to house the capabilities planned for

108-1 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*). See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

108-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions, which were based on a number of considerations including cost, in two Records of Decision published in the *Federal Register* on December 19, 2008 (73 FR 77644 and 77656). The first ROD addresses operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and includes the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building. Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault

Commentor No. 108 (cont'd): John Witham

the CMRR-NF, but continue to perform operations in the CMR Building at TA-3, with normal maintenance and component replacements at the level needed to sustain operations for as long as feasible. Certain operations would be restricted. Administrative and radiological laboratory operations would take place in RLUOB at TA-55. But this alternative does not completely satisfy NNSA's stated purpose and need to carry out operations at a level to satisfy the entire range of DOE and NNSA mission support functions. (Pg. S-19)

- So this is not really an alternative, either.
- That leaves only the Modified CMRR-NF Alternative as the only real alternative. Under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative, NNSA would construct the new CMRR-NF at TA-55 next to the already constructed RLUOB, with certain construction enhancements and additional associated construction support activities.
- Obviously, two of the alternatives are unworkable, which stacks the deck in favor of the preferred alternative.

108-3 cont'd

3. This draft SEIS should be withdrawn until the details of the Seismic Risks are better understood.

- The cost-saving Shallow Option, in which the foundation would be constructed in a geologic layer above a poorly welded tuff layer, is not a mature concept, and it is not yet known if this option is safe. The draft SEIS fails to accurately analyze how impacts to the environment from this option may be different.
- There are more new seismic investigations currently underway at the Lab. This draft SEIS must be withdrawn and rewritten after the results of these new investigations are known. Proceeding with design before seismic risks are better known will only repeat the process that led to the need for this Supplemental EIS.

108-4

4. A New Nuclear Facility Will Detract from Cleanup of the Existing Mess. DOE made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant, which will only add to the pollution.

- Materials Disposal Area C (MDA C), a large chemical waste dump, is located in the middle of the proposed construction support areas. Large pore gas contaminant plumes exist under areas where construction offices and warehouses are planned. Cleanup at MDA C must be completed before any new construction.

108-5

trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*.

108-3 Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, of the SEIS, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions and issued through the 2008 *Complex Transformation SPEIS* ROD. Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and not proceed with the CMRR-NF, such an alternative does not meet NNSA's stated purpose and need (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). Thus, an alternative of ceasing CMR operations is not addressed in the *CMRR-NF SEIS*. The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

108-4 NNSA understands the seismic risks of the CMRR-NF construction site sufficiently to proceed with design. See the response to 108-1.

The concerns expressed by the commentor about the Shallow Excavation Option not being a mature alternative appear to refer to statements in Chapter 1 and Chapter 2, Section 2.6.2.1, of the *Draft CMRR-NF SEIS* indicating that there was more uncertainty in the design of the Shallow Excavation Option because that design had not reached the same level of maturity as the Deep Excavation Option. The *CMRR-NF SEIS* has been revised. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain

Commentor No. 108 (cont'd): John Witham

5. The Costs to Build a Plutonium Pit Production Complex Are Just Too High. The total original estimate for constructing the new nuclear weapons complex at Los Alamos National Laboratory was approximately $600 million in 2004. The current estimate is $5.8 billion. DOE must analyze whether this growing price tag is too high and examine simply upgrading the existing facilities to address seismic concerns and worker safety would cost less. **108-2 cont'd**

6. The US does not need 80 new plutonium pits per year. DOE must conduct a "capacity study" to determine whether the existing facilities can be used instead of building the proposed NF, which would increase pit-manufacturing capacity to at least 80 per year. Existing facilities have sufficed since 1999 when DOE limited plutonium pit manufacturing to 20 per year. **108-6**

- So what are these needed new or expanded capabilities, if indeed we are seeking a future world free of nuclear weapons? If these needs exist, NNSA must explain why plutonium pit production must be expanded? If expanded production is not needed, then why is the CMRR-Nuclear Facility needed?

Just as new seismic information has forced a re-evaluation of the construction, new cost information must force a re-evaluation of the cost. **108-2 cont'd**

The No-build alternative that was offered in the scoping must be reconsidered. **108-3 cont'd**

- Do not construct a replacement facility to house the capabilities planned for the CMRR–NF. Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.

John Witham
Santa Fe, NM 87505

close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b). The Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

108-5 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

108-6 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 109: Nodia Brent-Lux

From: Nodia [Nodia@goldeneyesantafe.com]
Sent: Saturday, June 18, 2011 4:53 PM
To: NEPALASO@doeal.gov
Subject: plutonium production in Los Alamos

To Whom It May Concern,

I am absolutely opposed to plutonium production in Los Alamos and I am appalled that our tax dollars are going towards the creation of new weapons. How many people will have to get sick and die from nuclear accidents before we decide to place people before profits? *109-1*

Nodia Brent-Lux

109-1 NNSA acknowledges that there is substantial opposition to the development of nuclear weapons. Plutonium is not produced at LANL and could not be produced there. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 110: Claire Kugelman-Kropp

From: Claire Kugelman-Kropp
To: nepalaso@doeal.gov
Sent: Friday, June 17, 2011 7:27 AM
Subject: Responding to the CMRR SEIS

I recently heard about the proposed new plutonium facility at the Los Alamos National Laboratory, and I have a few concerns.

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. ***110-1***

The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. ***110-2***

Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth.

Claire Kugelman-Kropp
15985 41st Avenue
Clearlake, CA 95422

110-1 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

110-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 111: Kathryn Albrecht

From: Kathryn Albrecht
[lapaz@zianet.com]
Sent: Saturday, June 18, 2011 11:04 PM
To: nepalaso@doeal.gov
Subject: No Plutonium Lab!

NOT now, not EVER. Stop work on the CMRR and convert the Labs! *111-1*

Kathryn Albrecht
San Antonio, NM
87832-0422

The cure for anything is salt water -

sweat, tears, or the sea.

~ Isak Dinesen

111-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

Commentor No. 112: Anne DeMers

From: Anne Demers [Anne.Demers@bhshealth.org]
Sent: Saturday, June 18, 2011 11:25 PM
To: nepalaso@doeal.gov
Subject: CMMR replacement building

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

I urge you to cancel the replacing the existing Chemistry and Metallurgy Research Building for many reasons:

1) We already have the ability to produce 20 pits a year at the CMS building and currently have 15,000 pits stored at the Pentax Facility in Texas. ***112-1***

2) This violates the Nuclear NonProliferation Treaty in existence. ***112-2***

3) This building is located in a seismic fault zone between a rift valley and a dormant volcano. A recent seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. We seem to be courting our own nuclear disaster -- maybe much word than Fukushima or Chernobyl. Supposedly the new building will be able to withstand an earthquake of 7 on the Richter scale, but Japan has already had an aft3ershock from their recent earthquake measuring 7.1. ***112-3***

Also, a study of the Los Angeles National Laboratory's plutonium infrastructure needs to happen -- including existing and future capability needs, and it would be good if a realistic cost for maintaining and upgrading safety features at the existing CMR would be determined. I would rather see federal money spent for this purpose. ***112-4***

Again, I urge you to cancel this project.

Sincerely,

A. DeMers
Crookston, MN

112-1 NNSA notes the commentor's opposition to the CMRR-NF project. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

112-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

112-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated

Commentor No. 112 (cont'd): Anne DeMers

seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The types of radiological accidents that occurred at Chernobyl and the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. Plutonium metal and oxide used at the existing CMR Building and that would be used in the proposed CMRR-NF cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems like those used at commercial nuclear reactor plants. For more information on this issue see Section 2.8, Nuclear Accidents, of this CRD.

112-4 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 113: Emily Sadow

From: Emily Sadow [snowmaven@gmail.com]
Sent: Sunday, June 19, 2011 11:06 AM
To: nepalaso@doeal.gov
Subject: Comments CMRR-NM SEIS

I am writing to oppose the new Chemical and Metallurgical Research Replacement Nuclear Facility building proposed in Los Alamos. Here are some reasons:

1. A SEIS is not sufficient to assess the impacts, only a complete NEW EIS would be sufficient *113-1*

2. Focus on cleaning up the existing mess before building something new *113-2*

3. There must be other alternatives considered *113-3*

4. Increasing the capacity to build nuclear bombs could compromise the US efforts for nuclear arms reduction, for the completion of non-proliferation treaties and for persuading non-nuclear nations to abstain from acquiring their own nuclear weapons. *113-4*

5. Nuclear weapons are obsolete *113-5*

6. Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream *113-6*

7. Money spent on Unusable Nuclear Waste does NOT support economic growth. *113-7*

Thank you for taking comments.

Sincerely,

Emily Sadow
PO Box 352
El Prado, NM 87529

113-1 NNSA notes the commentor's support for the preparation of a new environmental impact statement to the *CMRR-NF SEIS*. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information regarding the decision to prepare an SEIS.

113-2 In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

113-3 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

113-4 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

113-5 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 113 (cont'd): Emily Sadow

113-6 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

113-7 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 114: Sheila Croke

From: Sheila Croke [scroke@verizon.net]
Sent: Sunday, June 19, 2011 11:17 AM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallurgy RCMRR Project in Los Alamos, New Mexico

Dear Mr. Tegtmeir,

I am writing to express my deep concern and alarm about the proposed facility in New Mexico.

First, the location is known to be close to a fault line. We know from Japan that the best laid plans are no guarantee for success;the strength of an earthquake can exceed expectations . To build so close to a fault line seems far from prudent. *114-1*

Second, the cost is out of control. How can our country justify such an expense considering the basic needs such as education , nutrition and health care for our youth? What are our priorities? *114-2*

What about the effects on the environment? Why do we want to risk damaging the region to say nothing of those who live downwind or downstream from the facility? *114-3*

I urge you to do all in your power to put a stop to this project for the good of all our citizens. *114-4*

Sheila Croke
Greenlawn, NY 11740

114-1 NNSA notes the commentor's concerns about the proposed CMRR-NF. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

114-2 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

114-3 Chapter 4 of the *CMRR-NF SEIS* presents the potential impacts of the proposed alternatives on the environment, including the populations downwind or downstream of the facility. As indicated in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, the estimated human health impacts from normal operations are expected to be small.

114-4 Comment noted.

Commentor No. 115: Marliss Rogers

From: marjayrog [marjayrog@milwpc.com]
Sent: Monday, June 20, 2011 11:31 AM
To: nepalaso@doeal.gov
Subject: CMRR New Mexico

We don't want New Mexico to turn into a Fukishima! Please cancel the CMRR project. Instead, make a study of LANL's plutonium infrastructure, including existing and future capacity needs. A realistic cost for maintaining and upgrading safety features at the existing CMR should also be determined.

The cost of nuclear power, in terms of radiation illness, pollution, lives and funds is far too dear. We need to make an effort to use renewable energy (non-nuclear) to provide energy needs for our cities.

115-1

Thank you for your consideration.

Marliss Rogers

115-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear power. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, for more information.

Regarding the commentor's request to perform a plutonium infrastructure study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 *FR* 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 116: Linda Thompson

From: Linda Thompson [lindat@taosnet.com]
Sent: Sunday, June 19, 2011 11:46 PM
To: NEPALASO@doeal.gov
Cc: Senator@tomudall.senate.gov; NM03BLIMA@mail.house.gov
Subject: My Comments about the Draft CMRRNF SEIS

For Mr. John Tegtmeier, CMRRNF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA3 Building 1410, Los Alamos, New Mexico, 87544; and any others accepting comments from residents of the affected area.

I attended a recent meeting in Taos, NM, about the proposed project.

My family and I are very concerned about the proposed plutonium pit production complex at Los Alamos. We feel that a complete, new EIS should be required for this potentially very harmful expansion. The location is seismically active, and after the horrible environmental disaster affecting nuclear power plants in Japan, we know that our current scientific knowledge about the safety of such a project in a seismic zone is woefully inadequate. The proposed Supplemental EIS is not good enough to support building such a facility in a seismic zone that is not well understood. Furthermore, the building's design is not final, so any environmental studies should not be begun until the design is final. *116-1*

We need to continue addressing the existing problems of clean-up at LANL, not begin new contamination and highly hazardous activities there. *116-2* The American people are tired of living under the threat of nuclear warfare, terrorism, facility accidents, transport accidents, and economic downturns caused, in part, by the huge expense of waging several long-lasting wars in a number of countries overseas. We do not need more ramp-ups to war that cost billions of dollars and present unforeseen problems. We do not need 80 new plutonium pits (bomb triggers) a year. We need to respect our nonproliferation treaties and goals.

We do not need (and strongly oppose) more environmental degradation caused by making war weapons, especially nuclear bombs. Los Alamos does not need an economic boost; but other parts of New Mexico do need environmentally friendly industries that aim to put this country and state back into prosperity--a peace-oriented prosperity. Let's stop the war machine and begin to address cleaning up the messes that we have and building self-sustaining energy industries such as wind power and solar power facilities. We live in a beautiful part of a beautiful state with a fascinating history and culture; let's not turn it into a wasteland unfit *116-3*

116-1 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information regarding the decision to prepare an SEIS.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

116-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent.

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 116 (cont'd): Linda Thompson

for life--just to keep our military machine expanding. Please listen and respect our point of view. Begin with a brand-new complete EIS that applies the most current knowledge to all of the proposed, final-design features of this project. ***116-1 cont'd***

Sincerely,

Linda Thompson
HCR 74 Box 22273
El Prado, NM 87529

116-3 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA acknowledges that there is substantial opposition to nuclear weapons and their components. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 117: Edward J. Thompson

From: 8Edward Thompson [ejthomp2000@yahoo.com]
Sent: Monday, June 20, 2011 9:00 AM
To: nepalaso@doeal.gov
Subject: Stop the CMRR Project

Stop the CMRR project for these reasons.

1. We don't need additional nuclear proliferation.

2. it is a violation of international nuclear agreements.

3. an accident would kill thousands of innocent people.

4. The huge cost of this project is in direct violation of our need to reduce costs of military spending.

Edward J. Thompson

117-1

117-1 NNSA notes the commenter's concerns about nuclear proliferation. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 118: Paul Troyano

From: nepalaso@doeal.gov on behalf of ptroyano [ptroyano@cox.net]
Sent: Sunday, June 19, 2011 10:12 AM
To: nepalaso@doeal.gov
Subject: No nuclear facility near a fault line or anywhere

Mr. John Tegtmeir,

We here in the US do not need a Chemistry and Metallurgy Research Replacement facility anywhere in the US , least of all near a geological fault line.

I hope you will reconsider this project especially in light of Fukushima disaster ,resulting from an earthquake. Accidents happen without earthquakes and why should we put our children in harms way? Why should we make anything so deadly for our world? We have enough weapons now to destroy the world many times over. When I was a teenager I was aware we had enough nuclear weapons to destroy each city over 700 times. There is no reasoning that would convince us this makes sense. *118-1*

Thank you.

Paul Troyano
New Orleans,LA

118-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

NNSA notes the commentor's concern about building in a geologically unstable area or near a fault. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA acknowledges the commentor's concern related to the accident that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 119: Hope Buechler

From: Hope Büechler [hopeb@taosnet.com]
Sent: Friday, June 24, 2011 6:18 PM
To: NEPALASO@doeal.gov
Subject: Draft CMRR-NF SEIS

Dear John Tegtmeier,

The redesigned CMRR-NF if built, surely fits the definition of a boodoggle, i.e. an unnecessary and expensive piece of work paid for by public funds.

Is the planned facility really necessary? The factory will be used to store plutonium and to process the plutonium into "pits," the softball sized explosive core of nuclear warheads. But the US already has 2468 active nuclear warheads containing pits that are reliable for at least 81 years. *119-1*

Is this project expensive? The projected cost is $4.5 billion and rising. *119-2*

Futhermore, a boondoggle though costly and unnecessary generally does no harm, but this one is very risky. Stored plutonium can ignite spontaneously releasing dangerous radiation. Or the plutonium could ignite after a seismic event - the facility will be set in a seismic fault zone between a rift valley and a volcanic range. In any risk taking there are two considerations: how likely is something to happen, and what are the consequences if something does happen. An earthquake or volcanic eruption may not be very likely, but if it does happen, if the earth shakes at Los Alamos under a facility containing 6 metric tons of stored plutonium, the consequences are dire. *119-3*

Thank you for considering my comments,

Sincerely,

Hope Buechler
P.O. Box 665, Arroyo Seco,
NM 87514
xxx xxx xxxx

119-1 NNSA notes the commentor's position regarding plutonium pit production. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

119-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

119-3 NNSA notes the commentor's concern about building in a geologically unstable area. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that

Commentor No. 119 (cont'd): Hope Buechler

is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 120: Jan Soleau

From: Jan - Joy [janjoyihm@comcast.net]
Sent: Sunday, June 19, 2011 8:37 PM
To: nepalaso@doeal.gov
Subject: CMRR Project

Dear Sir:

Please do all in your power to close the CMRR project--a very scary situation. Also research and study should be done about maintaining the existing CMR and its cost. ***120-1***

Thank you for your consideration.

Jan Soleau

120-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the proposed CMRR-NF would support this effort.

As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 121: Carol Fox

From: carol fox [cfox7267@sbcglobal.net]
Sent: Sunday, June 19, 2011 5:27 PM
To: nepalaso@doeal.gov
Subject: No Fukushima in New Mexico

Dear Mr. John Tegtmeir,

The CMMR project should be canceled immediately. Before it goes forward again,there must be a study of LANL's plutonium infrastructure including existing and future capability needs as well as a realistic cost for maintaining safety features. *121-1*

Please see that a possible tragedy is averted.

Sincerely,

Carol Fox
Niles, Illinois

121-1 NNSA notes the commenter's opposition to building the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the commentor's request to perform a plutonium infrastructure study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644).

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 122: Katheryn Pate

From: Katheryn Pate [katheryn@highmountainproperty.com]
Sent: Monday, June 20, 2011 1:26 PM
To: NEPALASO@doeal.gov
Subject: JUST WHAT WE NEED

I am so sick & tired of all of this nuclear crap. Look what happened in Japan, look what may happen on the Missouri River here in the US. When will we come to our senses & realize that plutonium & other radioactive elements are DANGEROUS to our environment & our lives? But I guess I'm talking to a brick wall here. I'm sure this thing's a done deal already. The little guy in our society has no clout, no sway. I don't have billions of bucks to throw at some congressman, or some EIS decider. I'm sick & tired of the way things work, or don't, here in this insane world. I'm sick & tired of unending wars that benefit the elite corporations & kill & injure millions of innocent people in far away places. This country is lost. We'll never get back what we thought we had back in the good old days before the blinders came off & we realized that our reality was manufactured by the corp-gov "news." I don't even know why I'm sending this email. It'll just get trashed. I used to be so proud of this country. My ancestors came here in the 1600s. They fought in the Revolutionary War. I was so honored to be part of a family that helped found this nation. And now look where we are. My ancestors are rolling over in their graves. I'm puking in disgust. *122-1*

I am a mother, a wife & a grandmother. I am an ordinary woman living an ordinary life & I am sick of how this country & this world is changing. God help us all.

Sincerely,

Katheryn Pate
Taos, NM

122-1 Comment noted.

Commentor No. 123: Carol Averill

From: Carol and Dick Averill [rpaverill@gmail.com]
Sent: Tuesday, June 21, 2011 12:49 PM
To: nepalaso@doeal.gov
Subject: Re: Total Craziness

There is no money to spend on things we do not need and which are totally immoral. When are you going to realize that we must discontinue to fund the Military Industrail Complex which is getting closer and closer to destroying us all. What will we have to do to stop this total nonsense? Please, Please stop the whole nuclear program and watch others do the same. ***123-1***

Carol Averill
Disgusted and peace loving citizen

123-1 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, defense) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 124: Phoebe Sorgen

From: Phoebe Sorgen [phoebeso@earthlink.net]
Sent: Friday, June 24, 2011 12:47 AM
To: nepalaso@doeal.gov
Subject: CMRR proliferation+pollution is unacceptable!

Plans for a CMRR Nuclear Facility at Los Alamos are unacceptable, as is nuclear proliferation. Want REAL national security? Wake up and become sane. Here's why I oppose the plans:

Manufacturing plutonium pits is extremely dangerous to the health and safety of those living downwind. Plutonium is a very potent carcinogen. My next door neighbor died in the prime of health from lung cancer tho she never smoked nor worked w/ carcinogens. Another dear friend is now dying-ditto, ditto-lung cancer, never smoked. Why? Because 2.1 lbs of plutonium 238 were released into the air from a U.S. navigational satellite in an accident on April 21, 1964. It's been detected on all continents and all latitudes/longitudes. It could be you, if you happen to breathe in one imperceptible speck of it, or your grandchild. Enough! *124-1*

The United States does not need ANY, let alone 80, new plutonium pits per year. Do you want to re-ignite the nuclear arms race?! *124-2*

Also, the Supplemental Environmental Impact Statement is totally inadequate. Start over with a new, realistic Environmental Impact Statement. After all, the Los Alamos National Lab is in an earthquake-prone area, LIKE FUKUSHIMA. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild shaking, but a 2007 study indicated a potential huge increase in ground motion activity. *124-3*

Chernobyl caused a million cancers, and so will Fukushima. Nuclear weaponry is even more deadly. *124-4*

Stop this madness NOW!

Phoebe Sorgen
1053 Cragmont Av
Berkeley, CA 94708

124-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

124-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

124-3 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand

Commentor No. 124 (cont'd): Phoebe Sorgen

a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*). See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

124-4 NNSA acknowledges the commentor's concern that an accident similar to those that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant or that occurred at Chernobyl could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 125: Christopher Lish

From: Chris Lish [lishchris@yahoo.com]
Sent: Sunday, June 26, 2011 1:52 AM
To: NEPALASO@doeal.gov
Subject: I oppose the CMRR Nuclear Facility

Saturday, June 25, 2011

NNSA Los Alamos Site Office
3747 West Jemez Road
TA–3 Building1410
Los Alamos, New Mexico, 87544,

Dear CMRR-NF SEIS Document Manager John Tegtmeier,

I am writing to express my deep concern with your plans at Los Alamos National Laboratory for a Chemistry and Metallurgy Research Replacement (CMRR) Nuclear Facility. I am incredibly upset by this new project for a variety of reasons:

* As proposed, the CMRR project will cost close to $6 billion, a 1,000% increase over initial cost estimates. *125-1*

* The Department of Energy now recognizes that there is a greater risk of damage to such a facility from earthquakes. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. *125-2*

* Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. *125-3*

* Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. *125-4*

* Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material. *125-5*

The draft Supplemental Environmental Impact Statement is premature and I strongly urge the Department of Energy to withdraw it. *125-6*

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

Sincerely,

Christopher Lish
PO Box 113
Olema, CA 94950

125-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Regarding cost concerns, the cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making a decision in the ROD.

125-2 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

125-3 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

125-4 As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

Commentor No. 125 (cont'd): Christopher Lish

125-5 Although the commentor expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

125-6 NNSA determined, consistent with CEQ regulations and DOE Implementing Procedures, that it was appropriate to prepare an SEIS at this time due to changes that have occurred since the 2003 CMRR EIS was prepared. NNSA maintains that a supplement is appropriate and that there is no reason to withdraw the *CMRR-NF SEIS* at this time.

Commentor No. 126: Patricia Birnie

From: Patricia Birnie [patbirnie@greenbicycle.net]
Sent: Friday, June 24, 2011 1:52 PM
To: nepalaso@doeal.gov
Subject: STOP the CMRR new nuclear weapons facility!

I strongly oppose the NNSA plan to build a new plutonium pits factory at the Los Alamos Labs. ***126-1***

It would be a far more efficient use of money, time, resources, and environmental stewardship to upgrade the old facilities. ***126-2***

The estimated cost of completion of the new complex has become astronomical compared to its original estimate. ***126-3***

In addition, according to a 2007 seismic study, the site is located too close to an earthquake prone area with far more dangerous than originally understood. It is foolish to continue with such a seriously flawed plan. ***126-4***

The Los Alamos site is presently in the middle of toxic waste removal, and needs to have that completed before doing further environmental damage there. ***126-5***

The draft Supplemental Environmental Impact Statement should be withdrawn.

No further work should be done at this site toward a new plutonium pit factory. Use common sense, and utilize taxpayer dollars more wisely, and still provide for our national security. ***126-2 cont'd***

Thank you,

Patricia Birnie
5349 W. Bar X Street
Tucson, AZ 85713
USA

Patricia Birnie
5349 W. Bar X Street
Tucson, AZ 85713-6402

126-1 NNSA notes the commentor's opposition to a "new plutonium pits factory" at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

126-2 Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. Renovations needed to upgrade the existing CMR Building would be extensive. Although this alternative was considered in the *CMRR-NF SEIS*, it was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*.

126-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

126-4 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region

Commentor No. 126 (cont'd): Patricia Birnie

were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*). Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for additional information.

126-5 Regarding commitment to clean up legacy waste, NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 127: Thomas Heck

From: Thomas Heck [heck.3@osu.edu]
Sent: Friday, June 24, 2011 12:21 AM
To: nepalaso@doeal.gov
Subject: Ouch! What a waste of money

The new plans for a CMRR Nuclear Facility at the Los Alamos Lab are downright insane. As a citizen who is concerned about nuclear proliferation and national security, I would argue that the United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limit implemented by DOE in 1999 should suffice. ***127-1***

If plutonium -- a deadly poison -- were not a curse on generations yet unborn, I would not be so worried. ***127-2***

Thomas Heck
592 Rosa Linda Way
592 Rosa Linda Way
Santa Barbara, CA 93111

127-1 NNSA notes the commentor's opposition to the CMRR-NF project. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for additional information.

127-2 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 128: Grant Weherley

From: Grant Weherley [grantweherley@gmail.com]
Sent: Friday, June 24, 2011 9:51 AM
To: nepalaso@doeal.gov
Subject: There are many more beneficial areas to allocate government **spending**

128-1 The idea that the U.S. government is throwing billions of dollars at nuclear weapons, regardless of whether it is in the form of development, production, or maintenance, is both appalling and irresonsible in countless ways. Nuclear weapons are a "deterrent", yet every time our nuclear capabilities expand, this is clearly a threatening move to other countries, likely causing a corresponding increase in their nuclear abilities, leaving no competetive edge to the U.S. and resulting only in a significant waste of time and capital.

128-2 Which leads me to my next point that in the current status of this country economically, as just one example as there are plenty of others, spending this money on R & D of cheaper sources of energy would be much wiser. There are no problems currently or in the near future stemming from a shortage of nuclear weapons or a lack of nuclear weapon maintenance, so it is a waste to allocate billions where there is no need, when there are so many other problems in this contry. Don't do this. You are screwing over everybody and everything, even the local environment, and it's completely senseless.

Don't just do your job. Do what you know is right, so when you die you know that you left the world a better place, not worse.

Grant Weherley
1408 Jandymar Court
Lexington, KY 40517

128-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

128-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, for alternative energy sources) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for additional information.

Commentor No. 129: Christine Curry

From: Christine Curry [christinecurry.pna@gmail.com]
Sent: Thursday, June 23, 2011 3:55 PM
To: NEPALASO@doeal.gov
Subject: Stop New Nuclear Weapons Plant, Earthquake Zone by 6/28

Dear Department of Energy,

I'm concerned about the construction of the CMRR plutonium reprocessing and storage facility in New Mexico. It will store six tons of the most highly toxic substance on Earth, plutonium, at the government's facility. Second, the costs have ballooned by 1000%, from $600 million to $6 billion.

Finally, this facility can be used to reverse the program, from President Obama's pledge to end nuclear weapons, to produce as many as 80 nukes each year. This is going one step forward, 3 steps back, with plutonium—the most deadly, toxic substance in the world.

129-1

Sincerely,

Christine

Christine Curry
PA 19061

129-1 NNSA acknowledges that President Obama has stated that a long-term goal is a world free of nuclear weapons, although the President has also stated that this goal would not be reached quickly. Even in the post-War world, international dangers remain and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA notes the commentor's concern about the cost of the new facility. Cost of constructing and operating the CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for additional information.

The toxic nature of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 130: Tamara Severns

From: Tamara Severns [redwoodseverns@yahoo.com]
Sent: Thursday, June 23, 2011 2:01 PM
To: nepalaso@doeal.gov
Subject: Registering my opposition to the CMRR Nuclear Facility

I am not a scholar but a working class citizen who wants to live without fear of my own government caring so little about the working class and the enviornment that DOEE wants to contaminate all of us in the name of security. We have so many suffering from working in these plants. Would you build a Nuclear Weapons plant near the White House or the Pentigon and have the White House staffers work there or your families owrk there. It is not fair to the environment or the people who can not fight back with these Coprporate Controllers. We the People really have lost our voice in America. We have become South Africa where the rich rule the poor....no more democracy here in america. All we have left is our genuiness and love of each other as we watch democaracy taken away bit by bit and say thank God we are not those people who live ruled by greed and not compassion of their fellow humanbeings and nature. Sadly Tamara *130-1*

Tamara Severns
705 W 38th St
Kansas city, MO 64111

130-1 Comment noted.

Commentor No. 131: Ann Suellentrop

From: Ann Suellentrop [annsuellen@gmail.com]
Sent: Thursday, June 23, 2011 1:51 PM
To: nepalaso@doeal.gov
Subject: Stop Building for Nuclear War!!!

I am very upset about the proposed new plutonium facility at the Los Alamos National Laboratory!!! Nothing justifies the preparation for the annhilation of millions of civilians in a single flash of light!!

It is immoral and evil, outrageously wasteful, and threatens the survival of all life on earth! Nuclear weapons must be banned entirely and nuclear waste will have to be guarded FOREVER against poisoning our health and environment! It's time to STOP THIS MADNESS!!! *131-1*

We do not need any more nuclear bombs!! We have enough already to blow the world up many times over!! The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. *131-2*

Even a limited nuclear war, say between India and Pakistan, would send ash from burning cities into the upper atmosphere to circle the earth and block the sun, resulting in a nuclear Ice Age. There would be no growing season or crops, and billions would perish in the resulting famine. See the January, 2010, issue of Scientific American for more information.

It's time to put the genie back in the bottle; there was no plutonium in nature until humans made this deadly material. Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. *131-3* Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. *131-4*

We are in an economic crisis and can't afford this foolish, extravagant waste of money. Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth. Spend money on human needs, not human GREED! *131-5*

Ann Suellentrop
1865 S. Pyle St.
Kansas Ctiy, KS 66103

131-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

All radioactive waste generated as part of activities at the CMRR-NF and elsewhere at LANL will be managed in a manner that is protective of public health and safety and the environment, and in compliance with Federal and state standards. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

131-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

131-3 The danger of plutonium has been recognized since its first large-scale production in 1945. Plutonium must be produced, rather than mined, because it occurs in nature in only minute concentrations. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

131-4 As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

131-5 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, health care, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 132: Nancy Enright, Ph.D.

From: Nancy Enright [Nancy.Enright@shu.edu]
Sent: Wednesday, June 22, 2011 8:54 AM
To: nepalaso@doeal.gov
Subject: nuclear site

Dear Mr. Tegtmeir, U.S. DOE/NNSA Los Alamos Site Office:

I am very concerned about the proposed nuclear project in Los Alamos, New Mexico. First, it is frightfully expensive in very difficult economic times. The original cost of the project was estimated at $400-550 million with a completion date of 2011. The current projected cost at $5.86 billion and a completion date of FY2023 - more than ten times the original projected cost. ***132-1***

However, the most disturbing thing of all is that the proposed site for the new CMRR building is some 2/3rds of a mile from a geologic fault line. ***132-2***

Please reconsider this ill-advised project, and consider the future of those living in the area and all of us whose taxes will be used to fund it.

Sincerely,

Nancy Enright, Ph.D.
Associate Professor of Writing
Director of First Year Writing
Seton Hall University
xxx xxx xxxx

132-1 NNSA notes the commentor's concern about the cost of the new facility. Cost of constructing and operating the CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

132-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for additional information.

Commentor No. 133: William M. Oberle, Project Manager
Department of the Army, Corps of Engineers

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 Jefferson Plaza NE
Albuquerque, NM 87109-3435
505-342-3284
FAX 505-342-3498

June 20, 2011

REPLY TO
ATTENTION OF

Regulatory Division
New Mexico/Texas Branch

SUBJECT: Action No. SPA-2011-00257-ABQ, Tegtmeier, LANL, NNSA, CMRR, CMRR-NF, DSEIS, Los Alamos County, NM

Mr. John Tegtmeier
U.S. DOE/NNSA
Los Alamos Site Office
3747 W. Jemez Road, TA-3 Building 1410
Los Alamos, NM 87544

Dear Mr. Tegtmeier:

The U.S. Army Corps of Engineers (Corps) is in receipt of your letter dated April 21, 2011, concerning the National Nuclear Security Administration, Los Alamos National Laboratory's, proposed Chemical and Metallurgy Research (CMRR) Building, CMRR-NF (nuclear facility portion), located in Los Alamos, Los Alamos County, New Mexico The activity involves a request for comments on draft supplemental EIS (DSEIS) for new building construction. We have assigned Action No. SPA-2011-00257-ABQ to this activity. To avoid delay, please include this number in all future correspondence concerning this project.

133-1 We have reviewed those portions of the DSEIS for the CMRR Building construction pertinent to Section 404 of the Clean Water Act. Based upon the information provided in the DSEIS, Section 4.2.6.1 Surface Water, Section 4.2.7.2 Wetlands, and Section 4.3.6 Surface-Water and Groundwater Quality, there does not appear to be any discharge of dredged or fill materials into a jurisdictional waters of the United States, including wetlands. Furthermore, there do not appear to be any adverse impacts on surface water quality from the construction activities if the Stormwater Pollution Prevention Plans are implemented. However, not enough information is provided on the construction of the CMRR Building to positively determine that a

133-1 Chapter 4, Section 4.3.6, has been revised to include additional information. DOE expects that a permit under Section 404 of the Clean Water Act will not be required for any of the project areas.

Commentor No. 133 (cont'd): William M. Oberle, Project Manager
Department of the Army, Corps of Engineers

- 2 -

Department of the Army permit under Section 404 of the Clean Water would not be required.

A Department of the Army permit is required under Section 404 of the Clean Water Act for the placement of dredged or fill materials into waters of the United States. If your agency or any of your contractors work, or plan to work, in a river, stream, or wetland, you may be required to obtain a Department of the Army permit.

I have enclosed a brochure describing the Corps regulatory program for your information. A series of nationwide permits are available which may be sufficient for some work, if all terms and conditions are met. Many of the nationwide permits require pre-construction notification to the Corps of Engineers and regional conditions may apply. In many cases, a water quality certification is required from the appropriate water quality authority.

133-1 cont'd

We will provide letters of determination of permit requirements on request, provided that we are furnished with information concerning any proposed projects. Summaries of the nationwide permits and information about the regulatory program are available on our web page at www.spa.usace.army.mil/reg/

If you have any questions concerning our regulatory program, please contact me at 505-342-3284 or by e-mail at William.M.Oberle@usace.army.mil. At your convenience, please complete a Customer Service Survey on-line available at http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

William M. Oberle

William M. Oberle
Project Manager

Enclosure:

Response side of this page intentionally left blank.

Commentor No. 134: Neil S. Weber, Director Department of Environmental Cultural Preservation, Pueblo de San Ildefonso

Office of Governor
Perry Martinez

02 Tunyo Po
Santa Fe, NM 87506

Telephone (505) 455-2273
FAX (505) 455-1120

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June 6, 2011

Mr. John Tegtmeier
U.S. DOE/NNSA
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Dear Mr. Tegtmeier:

The Pueblo de San Ildefonso (the Pueblo) Department of Environmental and Cultural Protection (DECP) has completed a review of the U.S. Department of Energy's (DOE's) *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico*. Our comments, both general and section-specific, are enclosed.

The Pueblo is highly concerned that the Environmental Justice process is not being correctly applied in this EIS, and that the possible effects to the Pueblo from LANL activities are not being properly assessed. In our comments, we provide examples of the deficiencies which should be addressed and remedied. *134-1*

Thank you for the opportunity to interact on a Government-to-Government basis, and to have our concerns addressed.

Sincerely,

Neil S. Weber, Director
Department of Environmental and
Cultural Preservation
Pueblo de San Ildefonso

Enclosure

134-1 NNSA notes the commentor's concerns regarding how environmental justice issues were addressed in the *Draft CMRR-NF SEIS*. Rather than the EPA's guidance referenced by the commentor, which is for EPA's internal use and is not required to be used by other Federal Agencies, the environmental justice analysis presented in the *CMRR-NF SEIS* is based upon the *Environmental Justice Guidance Under the National Environmental Policy Act* (CEQ 1997). Language has been added to Appendix B, Section B.10, to further describe the methodology used for the environmental justice analysis. Chapter 3, Section 3.10 of the *Final CMRR-NF SEIS* presents a discussion on the population within the potentially affected 50-mile (80-kilometer) region of influence surrounding LANL. This discussion provides data on the minority and low-income composition within this region of influence. Tables have been added to Section 3.10 that also display the composition of the region of influence at additional radial intervals of 5, 10, and 20 miles (8, 16, and 32 kilometers) to analyze potential impacts specific to populations in closer proximity to LANL.

Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, show the impacts on an average individual of the total minority population, the total Hispanic or Latino population, the American Indian population, and the low-income population; as well as the nonminority and non-low-income populations. In addition, a special pathway analysis was added to Chapter 4, Sections 4.3.11 and 4.4.11 of the *Final CMRR-NF SEIS* to analyze the potential impacts on subsistence consumers. Human health is the focus of the environmental justice analysis because several commentors have expressed concerns about the potential for adverse impacts on human health to offsite populations due to CMRR-NF operations. These sections have been expanded to further elaborate on potential environmental justice impacts due to resource areas other than human health.

Commentor No. 134 (cont'd): Neil S. Weber, Director Department of Environmental Cultural Preservation, Pueblo de San Ildefonso

GENERAL COMMENT

There is no systematic Environmental Justice (EJ) process evident in this document. The US EPA provides guidance on what EJ is, and specific procedures for assessing sites. None of these are displayed in the EIS. The EIS simply copies conclusions from various sections and concludes that there are no EJ issues connected to this activity. The Pueblo finds this unacceptable, and requests that the final EIS include a systematic EJ assessment, using EPA or comparable methodologies. *134-1 cont'd*

COMMENTS ON SPECIFIC SECTIONS

S.8 Description of the Alternatives

S.8.1 Alternatives Evaluated

Modified CMRR-NF Alternative:

Quote: The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basement well above that layer in the overlying stable geologic layer, which would act in a raft-like fashion to allow the building to "float" over the poorly welded tuff layer.

Question: How can this be demonstrated? What is the engineering basis of this?

Quote: At this time there is more uncertainty associated with the Shallow Construction Option. The Shallow Construction Option needs to be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis.

Comment: This should be done before publishing this Supplemental EIS.

S.11 Comparison of Alternatives

S.11.1 Comparison of Potential Consequences of Alternatives

Human Health Impacts – Facility Accidents

Quote: Under either the Deep Excavation or Shallow Excavation Option, the Modified CMRR-NF would be constructed to survive a design-basis earthquake without significant damage.

Comment: There is insufficient evidence presented that the CMRR-NF built to "float" on top of tuff would survive a design-basis earthquake without significant damage. *134-2*

134-2 The concerns expressed by the commentor about the Shallow Excavation Option needing more technical review are noted. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option.

The conclusions of the initial geotechnical report (Kleinfelder 2007a) recommended a sufficient portion of the overlying stable geologic layer be retained between the building and the poorly welded tuff layer to support the building. This report provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy, which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation. The report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]).This report provided project-specific (CMRR-NF) recommendations regarding seismic design and construction techniques with respect to the Shallow Excavation Option. The final design of the building would be based on additional, more definitive soil structure and slope stability analyses. These final design calculations would be the evidence that the building survives regardless of the Deep or Shallow Excavation Option. Final design analyses are standard protocol subsequent to preparation of NEPA documents and are not considered deferred studies under NEPA.

Commentor No. 134 (cont'd): Neil S. Weber, Director Department of Environmental Cultural Preservation, Pueblo de San Ildefonso

Environmental Justice

Comment 1: Does not utilize EPA's Environmental Justice Formula. *134-1 cont'd*

Comment 2: Does not address population density. *134-3*

Comment 3: Does not address percent minority population.

Comment 4: Does not address percent of economically depressed household data. *134-4*

Comment 5: Does not calculate an EJ Index Ranking. Further, as per US EPA; "The methodology user should realize that even an index ranking of zero can have significant EJ concerns. For example, an unpopulated area will rank a zero, but if owned by minority and/or low income groups, the site may have significant EJ importance." *134-5*

Comment 6: Does not address proximity of CMRR and TA-55 to the Sacred Area of the Pueblo de San Ildefonso. *134-6*

Comment 7: Section should perform the following calculations: Degree of Vulnerability, Minority Status Variable, Economic Status Variable, Population Factor, and finally a Calculation of the Potential Environmental Justice Index. *134-1 cont'd*

Comment 8: Section addresses only dose. This is not acceptable for a section that attempts to address EJ. *134-7*

Comment 9: This section addresses only the CMRR-NF. EJ be definition addresses cumulative effects, thus this section should address the effects of the CMRR-NF and all LANL facilities as a whole, and not just the CMRR-NF as a single unit. *134-8*

CHAPTER 4

4.2.11 Environmental Justice

Comment: The comments above apply to this section also. *134-9*

B.10 Environmental Justice

B.10.2 Description of Impact Assessment

Quote: Therefore, estimates of environmental justice impacts were determined using the impacts analysis presented throughout Chapter 4 for the various resource areas to assess the potential for a minority or low-income population to disproportionately bear any adverse impacts. *134-10*

Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. See Section 2.6, Seismic and Geologic Concerns, of this CRD for additional information.

134-3 As discussed in the response to comment 134-1, Chapter 3, Section 3.10 of the *Final CMRR-NF SEIS* presents a discussion on the population within the potentially affected 50-mile (80-kilometer) region of influence. Tables have been added to Section 3.10 that display the composition of the ROI at additional radial intervals of 5, 10, and 20 miles (8, 16, and 32 kilometers) to analyze potential impacts specific to populations in close proximity to LANL. Of these areas, the area with the highest population density is the area within 5 miles (8 kilometers) of LANL. This area has a population density of about 62 persons per square kilometer compared to a population density of about 25 persons per square kilometer for the entire 50-mile (80-kilometer) region of influence. Among the areas analyzed in this *CMRR-NF SEIS*, this area also has the lowest projected percentage of minority individuals living within it, 35 percent compared to 57 percent, and low income individuals 3.2 percent compared to 13 percent over the entire 50-mile (80-kilometer) region of influence.

134-4 The Draft *CMRR-NF SEIS* in Chapter 3, Section 3.10 included estimates of the minority and low-income populations but failed to show the percentages associated with these estimates. In response to this comment, the percent minority and low-income populations for the 50-mile (80-kilometer) region of influence and the smaller radial areas has been included in Tables 3–14 and 3–15 added to Chapter 3, Section 3.10 of the *Final CMRR-NF SEIS.*

134-5 As discussed in the response to comment 134-1, environmental justice was analyzed in accordance with CEQ guidance, not EPA's internal guidance.

134-6 The proposed CMRR-NF is planned to be built in an existing industrial area (TA-55) of LANL and, as such, would not change the visual impact from the Sacred Area of the Pueblo. In addition, as discussed in Chapter 4, none of the projected environmental impacts from operation of the proposed CMRR-NF are expected to have a significant impact on the environment surrounding LANL; this would include the Sacred Area of the Pueblo. For example, the facility would not

Commentor No. 134 (cont'd): Neil S. Weber, Director Department of Environmental Cultural Preservation, Pueblo de San Ildefonso

Comment: The comments above apply to this section also. *134-10 cont'd*

have any direct liquid discharges to the environment (see Section 4.3.6) and the air quality impacts would be minimal (see Section 4.3.4).

134-7 Human health impacts are of primary concern for the environmental justice analysis due to the potential for disproportionate impacts to offsite minority and low-income populations. However, language has been added to Chapter 4, Sections 4.3.11 and 4.4.11 of the *Final CMRR-NF SEIS* to further elaborate on potential impacts to resource areas other than human health.

134-8 Section 4.6 of the *CMRR-NF SEIS* analyzes cumulative impacts of the proposed CMRR-NF operations and other activities at LANL. As shown in this section, none of these activities are expected to have significant adverse affects on the populations surrounding LANL. This would include minority and low-income populations.

134-9 Comment noted. The above responses apply to Chapter 4.

134-10 Comment noted. Appendix B, Section B.10, was revised to provide additional information on method used to project the minority and low-income populations through 2030 using 2010 census data.

Commentor No. 135: Pete Cerneka

June 15, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Re: Propsed Chemistry and Metallurgy Research Replacement (CMRR) Project

Dear Mr. Tegtmeir:

It has come to my attention that the proposed research facility for making "Plutonium Pits" will increase by fourfold those currently being made yearly at the existing facility and will add to the 15,000 pits stored at Pentax Facility in Texas. In 2004 the projected cost for building the proposed facility, to be completed this year, was approximately $550M. The new estimate is approximately $5.86B to be completed in 2023! The proposed facility will be built in a seismically active fault zone with the capability of withstanding an earthquake of a magnitude of 7 on the Richter scale. **135-1** **135-2** **135-3**

What possible need do we have for more than 15,000 "plutonium Pits"? Why do they need to be produced at an even higher yeary rate? Why the tenfold increase in costs? Why build any such facility in a seismically active fault zone? The earthquake damaging the nuclaer reactors at Fukushima, Japan was much higher on the Richter scale. As you know there has been at least one 7.1 aftershock! **135-1 cont'd** **135-3 cont'd**

Please cancel this project. The project appears to be a solution for which there is no problem; a resource for which there is no need. The costs estimates are absurd. The risk is outrageous. **135-4**

Sincerely,

Pete Cerneka
1105 Belleville St.
Lebanon, IL 62254

CC: Senator Richard Durbin
Senator Mark Kirk
Representative Jerry Costello

135-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for additional information.

135-2 NNSA notes the commentor's concern about the cost of the new facility. Cost of constructing and operating the CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

135-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for additional information.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that

Commentor No. 135 (cont'd): Pete Cerneka

require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

135-4 Comment noted.

Commentor No. 136: Sara Pene

I strongly oppose the CMRR-NF project. It is unnecessary + dangerous. This money could be used for much more needed projects as schools + solar + wind energy. **136-1**

I live downwind from Los Alamos +. I feel my health is endangered by living here. **136-2**

We do not want to be a party to a project that is designed to kill people. You need to listen to the concerned people who approve this project. We do not intend to stop the protests. **136-1 cont'd**

Sara Pene
Hepford N.M

136-1 NNSA notes the commenter's opposition to the CMRR-NF project. NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

136-2 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 137: Chris Ellis

From: Chris Ellis [chrisellis@taosnet.com]
Sent: Wednesday, June 22, 2011 5:02 PM
To: nepalaso@doeal.gov
Subject: CMRR is a major environmental threat

The CMRR Nuclear Facility proposed at Los Alamos Laboratory poses major environmental and health problems to me and my family, as we live in Taos and are directly downwind from Los Alamos. I am a chemical engineer and understand the toxicity of plutonium. It is a carcinogen in addition to being highly radioactive and has a significant half life. ***137-1***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***137-2***

Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material. ***137-3***

Chris Ellis
PO Box 208
Arroyo Seco, NM 87514

137-1 NNSA notes the commentor's concerns about the environmental and health effects posed by the CMRR Facility. The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

137-2 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

137-3 Although a number of commentors have expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 138: Theo

Comments on CMRR-NF SEIS

I am against the proliferation of nuclear arms, plutonium and the mining of uranium.
I feel that the direction of Los Alamos should be away from nuclear research, development and nuclear arms. **138-1**

A little known example of a plutonium facility that created severe contamination is the Mayak facility that completely contaminated the Techa river and hundreds of lakes.
The Russians also had to relocate half a million people due to the severe radiation contamination.

There has been such a trail of severe accidents, irresponsibility and mis-information in the nuclear industry. I am not confident in the nuclear industry in the nuclear industry. **138-2**
I am an advocate of peace, communication and a world that is not contaminated.

138-1 NNSA notes the commentor's opposition to the proposed CMRR-NF, and to nuclear research and development and nuclear weapons. Since the 1940s, the President and Congress have directed DOE (including NNSA) and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Since the end of the Cold War, DOE has changed missions and activities consistent with changing national security policies that reflect the new national security posture, including maintaining a smaller enduring stockpile and helping in nonproliferation efforts. However, even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Funding decisions on Federal programs and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

138-2 NNSA acknowledges the commentor's concern that a nuclear accident could happen at LANL. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Nuclear facilities constructed at LANL must meet strict safety criteria set forth in Federal regulations and DOE orders, and criteria imposed as an outcome of safety analyses. Refer to Appendix C for a description of safety analyses performed for this *CMRR-NF SEIS*.

Commentor No. 138 (cont'd): Theo

regarding Supplemental EIS for the Nuclear Facility Portion of the Chemistry & Metallurgy Research Building Replacement Project @ Los Alamos National Laboratory, LA, NM.

Comment: I am against your proposal. I don't think I want my funds/taxpayer used in this Manner. So please take into your decision that I am against this.

138-1 cont'd

I listen to the News and the 1° World Countries are moving away from Nuclear Energy and/or Weapons. This is Old technology that has waste that will last for Years. - millions of....

So my Vote is Against... -

138-1 cont'd

Theo [signature]
resident of Planet Earth.

Response side of this page intentionally left blank.

Commentor No. 139: Paula Seaton

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
US DOE - NNSA
Los Alamos Site Office, 3747 West Jemez Rd, TA-3, Bd. 1410
Los Alamos, NM 87544

139-1 Please do not spend the enormous amount of money on the proposed CMRR building at Los Alamos National laboratory. At a crisis time on the earth with so many needs for positive issues please do not use money for destroying life on our planet.

139-2 The EIS was done so long ago - 2003. There needs to be a new EIS but

since we don't need more bombs,

139-3 lets use the money for cleaning up LANL instead.

Sincerely,

Paula Seaton, PO Box 144, Embudo, NM 87531

139-1 NNSA notes the commentor's opposition to the proposed CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, health care, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

139-2 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action.

139-3 Regarding commitment to clean up legacy waste, NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 140: Dee Feeney

June 13, 2011

Dear Sir,

As a downwind community member I am adamantly opposed to any further building of the CMRR building in Los Alamos, NM. I live 20 miles as the crow flies from the laboratory and am very concerned about the continued construction of this new building that will be built at a cost that is so astronomical. And why and for what? Rio Arriba County is one of the poorest counties in the country. Poverty abounds, human health compromised, addiction rampant and we are pouring money into a laboratory and weapons program that will be used for destruction of human life and property and the earth. Where will this end and we are very concerned and worried about the building of this CMRR. Please reconsider the continued building of this complex and consider another environmental impact study for this massive project. I am a farmer and very concerned about the H_2O usage this project will use and the contamination of soil, air, water very concerning. I am a nurse and very, very concerned, please contact me as soon as possible to advise me the further plans for this complex

Dee Feeney RN POB 321
Dixon NM 87527

140-1
140-2
140-3
140-4

140-1 NNSA notes the commentor's opposition to development of the CMRR-NF. Since the 1940s, the President and Congress have directed DOE (including NNSA) and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Since the end of the Cold War, DOE has changed missions and activities consistent with changing national security policies that reflect the new national security posture, including maintaining a smaller enduring stockpile. However, even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

140-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations under any of the alternatives.

140-3 There are established programs at LANL that address the monitoring of air, water, and soil contamination in the area surrounding LANL. The results of these surveillance efforts are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, for more information on cleanup of past contamination.

140-4 The commentor will be mailed a copy of the *Final CMRR-NF SEIS*. NNSA will also publish a notice in the *Federal Register* announcing the availability of the *Final CMRR-NF SEIS*. In accordance with NEPA regulations, a ROD will be issued no earlier than 30 days after publication of the *Final CMRR-NF SEIS*.

Commentor No. 141: Robert Brenden

COMMENTS ON CMRR-NF SEIS

CONSIDERING OUR GREAT NATION IS RAPIDLY BECOMING BANKRUPT, FEARFUL AND XENOPHOBIC, I ASK YOU BROTHER SCIENTISTS AND OVERPAID BUREAUCRATS — WHY SPEND SO MUCH JUST TO KILL US ONE AND ALL? YOUR SCIENTIFIC IMPARTIALITY IS TAKING US ALL TO THE GRAVE, WITH NO INDICATION THAT ANY OF YOU ARE CONCIOUS OF YOUR OWN ACTIONS. SHOW THAT YOU HAVE AT LEAST SOME COMPASSION FOR THE MILLIONS WHO WILL DIE BY YOU UNRELENTING DESIRE TO DESTROY THE PLANET AND ALL LIFE THEREON.

141-1

SINCERELY,
A CONCERNED CITIZEN
ROBERT BRENDEN
DIXON NM 87527

141-1 NNSA notes the commentor's opposition to the proposed project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 142: Maria Chilton

6/14/11

To Whom it may Concern:
Regarding the SEIS for the Nuclear Facility @ LANL.
I am Strongly opposed to any and all proliferation of nuclear weapons.
142-1 Why anyone would think it's a good idea to Spend unfathomable amounts of tax payer money on Something to Kill people and the planet is beyond Comprehension to me.
142-2 I am also out raged that So few people are informed about a decision that Can potentially ruin us, our Children and all generations.
I am a native of New Mexico I Speak for myself and all my relations.
No more Nukes!!

Sincerely,
Maria Chilton
Dixon, NM 87527

142-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, health care, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

142-2 Preparation of the *CMRR-NF SEIS*, including procedures for public participation, is compliant with DOE and CEQ regulations for preparation of NEPA documents. Public scoping meetings and public hearing on the draft SEIS were held in numerous locations around LANL. Chapter 1, Section 1.7, of the *CMRR-NF SEIS* discusses the public participation program related to the SEIS. Also, refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 143: Emmy Koponen

June 14th

COMMENTS on the SEIS + more

143-1
I attended the hearing in Española, N.M. and honestly feel that there are so many points AGAINST this CM Building. It should not be built.

143-2
Why is not the the old TA-55 being made safe and will it be cleaned?

143-3
Perhaps some credibility for your past clean ups could be demonstrated.

143-4
Your plutonium facilities are outdated, unsafe, unneeded, and egregiously expensive. The dollars suck up all our social and environmental infrastuctures. Librarys, schools... where could $ be better spent?

143-5
Here in Northern N.M. our ditches crave water. Clean water! The 80 proposed pools would contaminate the groundwater + streams. The birds eat the worms. The precious water will be ruined for ever.
STOP KILLING US!

143-6
Fukashima received a short

143-1 NNSA notes the commentor's opposition to the proposed CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

143-2 Activities at the TA-55 Plutonium Facility are not within the scope of the *CMRR-NF SEIS* but were discussed extensively in the 2008 *LANL SWEIS* (DOE 2008a). Please refer to this document for a discussion of the activities under way at that facility.

143-3 NNSA intends to continue to perform environmental restoration activities at LANL. NNSA does not consider environmental restoration to be optional and progress on implementing those efforts is not linked to decisions on construction of the proposed CMRR-NF. Progress in performing environmental restoration activities at LANL is reported in the annual site environmental reports, which can be accessed at http://www.lanl.gov/environment/all/esr.shtml.

143-4 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, health care, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

143-5 There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, for more information on cleanup of past contamination.

143-6 Various U.S. government agencies, including DOE, are providing technical support and assistance to Japanese officials in addressing the situation at the Fukushima Daiichi Nuclear Power Plant. Additional information can be found at http://japan.usembassy.gov/e/p/tp-20110414-01.html.

Commentor No. 143 (cont'd): Emmy Koponen

paragraph. And how is Los Alamos helping clean up Japan or protecting the ocean and our world?

As far as the SEIS:

Supplementally adding $5,140,000,000 is obscene + the process is illegal.

not addressing a clean up strategy is unspeakable.

I support NO NEW BUILDING

Sincerely,

Emmy Koponen
(Emmy Koponen)
PO Box 456
Dixon NM 87527

143-6 cont'd

143-7

143-3 cont'd

143-1 cont'd

143-7 NNSA notes the commentor's concern about the cost of the new facility. Cost of constructing and operating the CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. The *CMRR-NF SEIS* has been prepared in compliance with DOE and CEQ regulations for preparation of NEPA documents. See Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 144: Shelley

6/14/11

We've been made aware that there is an 8 billion dollars to build modern nuclear weapons.

I doubt if anyone is ever ~~even~~ going to read this, and its the 1st letter I've ever written to share my thoughts, about a world gone crazy + going crazier.

144-1 I just don't understand how ~~we~~ anyone would want to continue this path to creating a more fearful world when it appear to me, we/are on the brink of actually changing into loving, caring Human Beings.

If you (those who are leaders) who would take these outrageous amts. of money you use for oppression, and use it instead to create wonderful Schools + to create an atmosphere of Peace everywhere. Peace + goodwill. Oh I can just imagine how fast our World would really change. Food & shelter, + respect for all Species including our Earth. There

144-1 NNSA notes the commentor's opposition to the proposed CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 144 (cont'd): Shelley

144-1 cont'd

is enough, more than enough.
You/We have the power
to create a peaceful environement.
It has to catch on with people
like you who have so much power
and you'd have tons of support.

Somehow, we have to change
this course of "power over."
And open to feeling the "Living Love"
that lives in all of us.
What joy! Imagine! A fun,
joyful loving beautiful World.

We Can!

We Can!

We Can!

Sincerely,
Shelley Faarer Home
P O Box 514
Penasco, NM 87553

Response side of this page intentionally left blank.

Commentor No. 145: Marie-Louise Jackson-Miller

From: Marie-Louise Jackson-Miller [marieljm1961@yahoo.com]
Sent: Wednesday, June 22, 2011 6:20 PM
To: nepalaso@doeal.gov
Cc: sbrown@scottbrown.senate.gov
Subject: Comments on the CMRR Project

June 22, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Please cancel the CMRR Project. The CMRR was designed to replace the existing Chemistry and Metallurgy Research Building to manufacture "Plutonium Pits", the fissile "triggers" capable of nuclear capability that initiate the destruction of modern thermonuclear weapons, but we really don't need any more plutonium pits. Currently the Department of Energy already has 15,000 plutonium pits stored at the Pentax Facility in Texas and these should be dismantled. ***145-1***

At the very least, a study of the Los Alamos National Laboratory's (LANL's) plutonium infrastructure should be required. ***145-2***

The original estimated cost of the CMRR project in 2004 was $400-550 million with a completion date of 2011. The current cost of the CMRR project is projected at $5.86 billion with a completion date of FY2023. This is more than ten times the original forecast, and ultimately there really is no way to determine the final cost. ***145-3***

Not to mention the fact that the proposed site for the new CMRR building is about 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. Adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area could lead to disastrous consequences on the scale of Fukushima or Chernobyl. ***145-4***

I also believe that work presently done at LANL and our other nuclear weapons facilities violates the Nuclear NonProliferation Treaty. ***145-5***

145-1 NNSA acknowledges the commentor's opposition to the CMRR-NF project and plutonium pits. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

145-2 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

145-3 NNSA notes the commentor's concern about the cost of the new facility. Cost of constructing and operating the CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

145-4 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that

Commentor No. 145 (cont'd): Marie-Louise Jackson-Miller

Additionally, I am quite concerned about the enormous amount of water that would be needed. Residents cannot afford to lose the water they need for day to day survival. I believe that human needs should be prioritized and that water is a basic human right. ***145-6***

I respectfully ask that you consider my concerns and cancel the CMRR Project.

Thank you sincerely,

Marie-Louise Jackson-Miller
63 Gay Street
Quincy, MA 02169-6602

Pc: Senator Scott Brown

are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for additional information.

NNSA acknowledges the commentor's concern that an accident similar to those that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant or at the Chernobyl reactor site could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

145-5 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

145-6 As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Commentor No. 146: Winona Fetherolf

From: winona fetherolf [winonaf@hotmail.com]
Sent: Thursday, June 23, 2011 12:20 PM
To: nepalaso@doeal.gov
Subject: No CMRR at Los Alamos

I am a resident of New Mexico: 13500 Skyline Rd NE G3, Albuquerque 87123.

I am vehemently opposed to the proposed CMRR at Los Alamos. It is within 2/3 mile of a fault line. What is the matter with government planners? Do you not consider the well-being of US citizens and the land itself. How very short-sighted! ***146-1***

It is also being built at a cost of $6 BILLION dollars, 10 times the projected cost. This, at a time when government is cutting essential services to tax payers and the economy is struggling to recover from a severe recession. This is irresponsible in so many ways. ***146-2***

Please do ALL within your power to stop this atrocity.

winona fetherolf

5/22/2011 . . . we affirm, on this beautiful day, that the Rapture must have occurred, and taken all of us into the Holy Place of Earth and the Blessedness of All That Is Our Lives. Let us live this day as if it were Heaven and, in that way, we will know Heaven, Love and Peace. Christine Robinson

146-1 NNSA notes the commentor’s opposition to the proposed CMRR-NF. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for additional information.

146-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 147: Elizabeth Michalak

John Tegtmeier,
CMRR-NF SEIS Document Mngr
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Elizabeth Michalak
363 E Copper Ave
Crestone, CO 81131
719-588-0287

June 22, 2010

John Tegtmeier,

Regarding the proposed CMRR-NF, I believe that such a large and risky project as this one must be reviewed with utmost care. I believe that those involved in the decision-making process must look at the whole picture: we must think of this country as united, and view the plight of our neighbor as our own plight. I can only imagine how I would feel if I lived downstream and downwind of this project and my child began having health problems related to plutonium pollution. I can only imagine how I would feel if I was told the facility was safe and then a fire happened—as it did in Rocky Flats in Colorado—and my communithy became at risk. I can certainly imagine how angry I would be if I lived in one of the many poor counties in New Mexico and had to watch Los Alamos county receive a government windfall due to this facility. **147-1** **147-2**

Yes, most forms of progress come with a price, and in each case someone has to pay that price for the benefit of others, but my question in this case is, "What is the benefit?" A commercial break for the nuclear industry? It certainly doesn't seem that an unusable backup of plutonium should be high on our country's priority list. **147-3**

From the information I have, I believe that this facility is unnecessary. At the very least, I feel that a full new EIS is essential before the project goes any further.

Thank you for considering the potential consequences of the CMRR-NF.

Sincerely,

Elizabeth Michalak

147-1 NNSA notes the commentor's concern about the CMRR-NF Project. NNSA's congressionally assigned missions, which are a subset of the missions assigned to DOE, are identified in Chapter 1 of the *CMRR-NF SEIS*. To perform its missions, both DOE and NNSA have developed overarching programs and identified work assignments for various NNSA- and DOE-administered sites across the country. The *Complex Transformation SPEIS* (DOE 2008b), prepared by NNSA in 2008, considered the environmental impacts for managing site requirements related to transforming the nuclear weapons complex into a smaller, more consolidated nuclear enterprise to meet future national security needs. One of the decisions reached by NNSA after the *Complex Transformation SPEIS* was completed was the decision to retain manufacturing and research and development work involving plutonium at LANL. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for additional information.

147-2 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. The analysis includes the potential impacts from severe accidents at the CMRR-NF, including possible fires.

147-3 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 147 (cont'd): Elizabeth Michalak

NNSA notes the commentor's request for a new EIS. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action.

Commentor No. 148: Ron Stathis

From: RonStathis@aol.com
Sent: Friday, June 24, 2011 9:36 AM
To: NEPALASO@doeal.gov
Subject: Want you want to do

For Mr. John Tegtmeier, CMRRNF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA3 Building 1410, Los Alamos, New Mexico, 87544; and any others accepting comments from residents of the affected area.

I have a home northwest of Taos near the airport. I was told want is planned and I do NOT agree.

I are very concerned about the proposed plutonium pit production complex at Los Alamos. We feel that a complete, new EIS should be required for this potentially very harmful expansion. The location is seismically active, and after the horrible environmental disaster affecting nuclear power plants in Japan, we know that our current scientific knowledge about the safety of such a project in a seismic zone is woefully inadequate. The proposed Supplemental EIS is not good enough to support building such a facility in a seismic zone that is not well understood. Furthermore, the building's design is not final, so any environmental studies should not be begun until the design is final. *148-1*

Ron Stathis

148-1 NNSA notes the commentor's request for a new EIS after the design is complete. NEPA documentation is typically performed while the design of a project is still underway. There is enough design information available to perform a NEPA analysis for the CMRR-NF project. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*). See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 149: R. Addison

From: R Addison [r_addison_apeco@yahoo.com]
Sent: Friday, June 24, 2011 1:40 PM
To: NEPALASO@doeal.gov
Cc: R apeco peace keepor Addison; Chico Peace Justice; discuss group; Nevada County Peace & Justice
Subject: Comments on the Draft CMRR–NF SEIS

tO Committee members:

149-1

As the sidelight to life living near a federal-pentagons facility (military bases, complexes of any military relegation) the need for "radiation-Monitoring" has been casitigated and excuse-Madeover, and negligence has set to a harshness of total pblic and humanity disparagement, one that far-far-far outstrips any necessity to or in maintaining "pit" production levels of any kinds for several reasons.

a) since the first atomic-Implosion in May 1945, there has been no "continuous" radiation-Monitoring contiguous with 'defensive measure' of protecting humans...

b) any nuclear "depleted-Uranium-238" and thermo-Nuclear munitions manufacturing is an aggression-Act not analogous with treaties, nor "defense" as that is offense...

Six billion dollars does not have to be budgeted for Defense that is offense. Billions should be spendt training monitors, maintaining Radiation monitored-Records, and implaced around all cities, counties, NPP's, military and other government buildings in and of the whole once-Waz: republic!

in Justice, thank you for change to pertinence

"R" Addison

149-1 NNSA notes the commentor's concerns about radiation monitoring. Establishing radiation monitoring networks in communities is not within the scope of this SEIS. However, LANL does monitor air and water emissions for radiation, and worker exposures.

Commentor No. 150: April Mondragon

From: April Mondragon [etasinum@gmail.com]
Sent: Wednesday, June 22, 2011 11:56 AM
To: nepalaso@doeal.gov
Subject: I oppose the CMRR-NF

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have summarized some of my concerns below.

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. .....Building on a seismic zone is foolish and ill conceived and puts lives in danger - it is gambling with past seismic records to predict the future. In a recent presentation from LANL employees, that stated that the new CMRR design would withstand from 5-7 seismic quakes, there is nothing that I have found in the EIS that states this. Again building on a known seismic zone can only be considered lethally foolish, unless the decisions to do such is really based on greed, and egomaniacs that think man can build things stronger than the earth. ***150-1***

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. MAKING MORE TOXIC WASTE IS CONTRARY TO CLEAN UP ! ***150-2***

Nuclear waste is known to be lethal to all life. It causes birth defects, cancer and makes water, earth and air un fit for human and life. To continue to fund activities disguised as being for the benefit of protecting the public, or for research, when in fact the continued mining, manufacturing and use of plutonium, and uranium for "energy", weapons production, and research is in fact one of the greatest threats to all humanity and the eco-system (all life forms). The recent LANL presentation was void of medical expertise on this issue of heath hazards. Because of this lack of information, I can only surmise that the presentation was geared to avoid this crucial issue through silence. The presentation avoided the health hazards that plutonium and uranium and waste impose on the earth, air, water, human and ecosystem with misleading, non descript, ad campaign jargon, about increased and improved safety measures. This is at best, false and misleading and at worst criminally negligent. New Mexican's are not stupid. ***150-3***

150-1 NNSA notes the commentor's concerns regarding plans at LANL. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

150-2 NNSA intends to continue to perform environmental restoration activities at LANL. NNSA does not consider environmental restoration to be optional and progress on implementing those efforts is not linked to decisions on construction of the proposed CMRR-NF. Progress in performing environmental restoration activities at LANL is reported in the annual site environmental reports, which can be accessed at http://www.lanl.gov/environment/all/esr.shtml.

150-3 All radioactive waste generated as part of activities at the CMRR-NF and elsewhere at LANL will be managed in a manner that is protective of public health and safety and the environment, and in compliance with Federal and state standards. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

Commentor No. 150 (cont'd): April Mondragon

The costs to build a plutonium pit production complex are too high. I can only support funding for clean-up. It is time to change the mission of LANL from weapons production to sustainable energy. ***150-4***

April Mondragon
HC 74
El Prado, NM 87529

150-4 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 151: Martha Eichler

From: Martha Eichler [martha_gunn@comcast.net]
Sent: Monday, June 27, 2011 9:53 AM
To: nepalaso@doeal.gov
Subject: Quadrupling Plutonium Production: Wasteful & Dangerous

Spending $6 billion on a huge increase in plutonium production at this time of economic peril for so many in the U.S. is wasteful and dangerous. The U.S. is so strapped that many believe its debt ceiling must be raised; how can this expense be justified at this time? *151-1*

President Obama has stated a goal of a world free of nuclear weapons. Increasing plutonium production only exacerbates the fear of other countries, which will want to react in kind, potentially accelerating an international arms race. With the building of a new plutonium pit facility, the US could possibly spur nuclear weapons development elsewhere. *151-2*

The proposed nuclear facility will compromise cleanup of existing waste. The Department of Energy (DOE) has pledged to clean up the legacy waste at Los Alamos Lab by 2015. We should be cleaning up existing waste before creating more deadly nuclear materials. DOE must devote taxpayer funds to cleanup, not proliferating more plutonium that would only increase nuclear pollution. *151-3*

The alternatives considered in the Supplemental Environmental Impact Statement do not offer legitimate choice. "Taking no action" should be one of the alternatives offered by DOE to the CMRR project. All of the alternatives currently listed recommend building the Nuclear Facility. This is not a balanced offer for the welfare of the American people and jeopardizes the peace and safety of the planet. *151-4*

Martha Eichler
73 Hunter Farm Road
Peterborough, NH 03458

151 1 NNSA notes the commentor's concern regarding the cost to build and operate the CMRR- NF. The cost to build and operate the proposed CMRR- NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

151-2 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF, nor does plutonium production occur at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and 2.4, CMR Mission, of this CRD for more information.

151-3 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

151-4 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

Commentor No. 152: Diane D'Arrigo
Nuclear Information and Resource Service

From: Diane D'Arrigo NIRS-Nuclear Information&Resource Service [dianed@nirs.org]
Sent: Tuesday, June 21, 2011 5:10 PM
To: nepalaso@doeal.gov
Subject: NIRS opposes the CMRR-NF

Nuclear Information and Resource Service opposes plans to build a plutonium pit production complex at Los Alamos National Laboratory.

Before ANY new nuclear projects are built, old ones MUST be cleaned up. Because there is really no way to "clean up," nuclear waste and contaminated resources, efforts must be undertaken to isolate the radioactivity from the public and environment. *152-1*

If we are learning anything from the ongoiing tragedy in Japan at Fukushima it is that earthquakes can be bigger than expected and do much more damage than projected. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The Supplemental and the original Environmental Impact Statement (2004) are did not consider the potential huge increase in ground motion activity (indicated in a 2007 study), requiring major changes to the building design. *152-2*

At a point in time when cleanup money is being cut at many DOE facilities, threatening commited cleanups, it is a waste of resources to build a new nuclear facility. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities physically and financially. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. *152-3*

As usual, DOE has no guaranteed method or location to isolate the many categories of nuclear waste from existing or future nuclear facilities, thus is not justified in proceeding with the Chemistry and Metallurgy Research Replacement Nuclear Facility *152-4*

Diane D'Arrigo NIRS-Nuclear Information&Resource Service 6930 Carroll Ave #340 Takoma Park, MD 20912

152-1 NNSA notes the commentor's opposition to building a plutonium pit production complex at LANL.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

152-2 The commentor's concerns that an accident (similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant) could happen at LANL is addressed in Section 2.8, Nuclear Accidents, of this CRD. There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant or Chernobyl) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a,

Commentor No. 152 (cont'd): Diane D'Arrigo
Nuclear Information and Resource Service

2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

152-3 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

152-4 Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 153: Jeanne Green

From: Jeanne Green [innerlight52@hotmail.com]
Sent: Sunday, June 26, 2011 8:38 PM
To: SEIS for CMRR-NF 10-10; Senator JeffBingaman; Representative Ben Lujan
Subject: comments on CMRR-NF

Here are my additional comments regarding the SEIS for the CMRR-Nuclear Facility:

1. We need a new EIS because there is **no demonstrated need** for a new CMRR-NF. We do not need more nuclear weapons when we have over 9000 that will each last a century and 20,000 plutonium pits in storage. We need to begin dismantling what we already have. Making more nuclear bombs does not make us safer and thus violates the missions of DOE and NNSA *153-1*

2. LANL **has not cleaned up it's mess** of chemicals and radionuclides on site, that are spilling down the canyons into our soil and water. LANL must fulfill it's Consent Order responsibilities before beginning new projects with taxpayer money. *153-2*

3. The SEIS offers **no realistic alternatives** other than building the new facility. This is a violation of the NEPA process which requires reasonable alternatives and a true No Option alternative. *153-3*

4. An option which spends over $5.8 billion and offers **not a single permanent job** is a travesty in these economic times during which unemployment is at a record high, teachers are being laid off, infants are being cut off of food coupons (WIC), and food stamps are being cut. This is immoral, unconscionable and insane. Profits to Bechtel is not a justifiable reason to build more nuclear bombs on the backs of taxpayers. *153-4*

5. The **exorbitant amount of water** to be used for this project in a desert state with continuing drought conditions under the real threat of global warming is unjustifiable. The exorbitant amount of electricity to be used for this project under the real threat of global warming and the desperate need for carbon reductions is unjustifiable. *153-5*

6. The idea of using money to build a new supposedly earthquake-proof building to facilitate making more nuclear bombs, even while the **currently used CMR is not earthquake-safe** is insane. Stop production now and make the current facility safe. As Fukushima portends we are all at great risk at this very moment. We cannot predict what mother nature will hand us and when. Building this facility on 4 earthquake faults between a rift zone and a volcano does not make sense to begin with. Wake up. Money is not all that matters. *153-6*

153-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

153-2 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

153-3 Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and not proceed with the CMRR-NF, such an alternative is not consistent with meeting NNSA's mission need nor does it reflect the status quo at LANL. The No Action Alternative in this *CMRR-NF SEIS* is based on the decision announced in the 2004 ROD for the original *CMRR EIS*. This is consistent with CEQ recommendations that, for proposed changes to an ongoing activity, "no action" can mean continuing with present plans (51 FR 15618). The *2003 CMRR EIS* offered a number of alternatives including different sites at LANL. NNSA determined that a supplement to the *2003 CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in design and construction of the CMRR-NF and has addressed alternatives consistent with previous analyses and decisions. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

153-4 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 153 (cont'd): Jeanne Green

7. The people of San Ildefonso and Santa Clara and Espanola are minorities who have suffered greatly from the effects of radiation releases in the soil, water and air, especially during the Cerro Grande fire. The Environmental Justice portion of the SEIS does not address environmental justice to populations living near LANL. Rather, it lists charts measuring minorities based on a 2030 projection. Los Alamos s primarily Caucasian. The charts assume that any accident in the area will only affect local residents. This is faulty assumption, as we see residents at Fukushima still being evacuated within 100 miles. If the LAHDRA report were to be followed-up with dose reconstruction or if local natives were inventoried for cancer rates, you would get a much more accurate picture. These charts are irrelevant and **Environmental Justice is not addressed in the SEIS**. We need a new and comprehensive EIS, not a slap in the face. *153-7*

8. Cultural and Paleontological Resources. The SEIS states, "In all cases there would be no effect through avoidance." The SEIS says that sacred cultural areas will be marked off and fenced and that anything that has to be moved will be done in consultation with the NM State Historic Preservation Office. This does not address Sacred Cultural Resources. The local tribes should be consulted on this. To put an orange plastic fence around these artifacts or to dig them up and send them to some museum is disrespectful and hurtful to local cultures. **The SEIS does not address Cultural and Paleontological impacts effectively**. *153-8*

9. The authors of the SEIS, regardless of the one signature waiver on the final page, have vested interests in approval of the building of the CMRR-NF. Science Applications International Corporation (SAIC) has contracts with Boeing in the weapons industry and contracts with the Department of Defense and Homeland Security and sells products to them. **This is a conflict of interest. This fact invalidates the entire document**. This is not science. It is corporate favors and financial interest in the outcome of the decision to be made. *153-9*

10. New Mexican citizens are not sacrificial lambs to the PRIVATIZED nuclear weapons industry. LANL has a sordid history of neglect and flagrant mismanagement. Citizens of New Mexico have been exposed without their knowledge to numerous leaks into our environment that have resulted in phenomenal cancer rates and illnesses and deaths. The significant numbers of safety violations and accidents at LANL are well documented. The LAHDRA report unveiled the enormous radiological exposures New Mexicans have experienced. To give a $6 billion check to these negligent corporate criminals who have literally poisoned our environment so that they can continue on a grand scale is insanity. And the **SEIS document with it's false assumptions and parameters and ridiculous computer models is insufficient to say the least**. *153-10*

Truly, Jeanne Green, 11 Los Padillas Rd, B, El Prado, NM 87529. 575-751-4130

153–5 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL. The comment regarding electricity usage is noted.

153-6 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The commentor's concerns that an accident (similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant) could happen at LANL is addressed in Section 2.8, Nuclear Accidents, of this CRD. There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant or Chernobyl) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems.

153-7 The *CMRR-NF SEIS* addresses possible impacts from releases to the air due to normal operations and activities to populations within a radius of 50 miles (80 kilometers). Chapter 3, Section 3.10, presents a discussion on the composition of the population within the potentially affected 50-mile (80-kilometer) region of influence. The figures referenced by the commentor display the cumulative minority populations as a function of distance from LANL. Both the distance and

Commentor No. 153 (cont'd): Jeanne Green

direction of populations surrounding the site are relevant factors to be considered when calculating potential impacts on human health. Data representing the cumulative total population have been added to these figures to clearly display the proportion of the population that is minority. In response to public comments, analysis of specific impacts to populations in close proximity of LANL at additional radial intervals of 5, 10, and 20 miles (8, 16, and 32 kilometers) has been added to the *Final CMRR-NF SEIS* in Chapter 3, Section 3.10, and Chapter 4, Sections 4.3.11 and 4.4.11. Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, show the impacts on an average individual of the total minority population, the total Hispanic or Latino population, the American Indian population, and the low-income population; as well as the nonminority and non-low-income populations.

A 50-mile (80-kilometer) radius is accepted by regulatory agencies such as the U.S. Nuclear Regulatory Commission and DOE because, at this distance, the concentration of airborne radionuclides is very small. A sensitivity analysis was performed for the preparation of the 2008 *LANL SWEIS* to determine how much of a difference there would be if an accident analysis was performed using a 100-mile (160-kilometer) radius instead of a 50-mile (80-kilometer) radius. The results showed that the population dose increased only 3 percent despite a 194 percent population increase, demonstrating the conservative nature of the methodology used in calculating the population dose (DOE 2008a).

153-8 As discussed in Chapter 3, Section 3.8.3, Traditional Cultural Properties, Native American tribes may request permission for visits to sacred sites within LANL boundaries for ceremonies or other purposes. When a project is proposed, NNSA arranges site visits with tribal representatives to solicit their concerns and to comply with applicable requirements and agreements. No paleontological resources have been identified within any of the technical areas at LANL that are addressed in the SEIS that would need to be removed.

153-9 Before DOE awards a contract to prepare an EIS, or in this case an SEIS, it reviews the contractor's proposal and makes a determination that there is no conflict of interest. The simple fact that SAIC does work for agencies or companies involved in defense work does not constitute a conflict of interest.

153-10 Releases of radioactive and other material into the environment from LANL activities are reported annually in documents such as annual site environmental reports, which may be accessed at http://www.lanl.gov/environment/all/esr.shtml.

Commentor No. 153 (cont'd): Jeanne Green

These annual site reports also estimate the radiological and nonradiological impacts that could result from these releases. In addition to an estimate of the impacts on public health that could result from implementing the actions proposed in the *CMRR-NF SEIS* (for example, see Chapter 4, Section 4.3.10), the *CMRR-NF SEIS* summarizes the existing affected human health environment in Chapter 3, Section 3.11. Section 3.11 summarizes current worker and public radiological doses from LANL activities and background sources, chemical exposures, worker industrial safety, public epidemiological studies, the CMR accident history, and emergency planning. Public and worker radiation doses have been in compliance with regulatory limits, and, as discussed in Section 3.11.3, worker-related accident rates have been well below industry averages. Section 3.11.4, Health Effects Studies, was updated for the *Final CMRR-NF SEIS*.

Commentor No. 154: Peter Wemyss-Gorman

From: Peter Wemyss-Gorman [peter.gorman@matmosonline.co.uk]
Sent: Tuesday, June 21, 2011 9:28 AM
To: nepalaso@doeal.gov
Subject: New Plutonium Facility in New Mexico

I write to express my dismay at the NNSA's plan to construct new plutonium pits at the Los Alamos Labs.

154-1 Rather than devoting funds to cleanup f existing waste to satisfy its commitment to attend to this, and improve safety, the Department of Energy has apparently decided to spend huge funds on a new bomb plant that would not only add to the dangers of building such a plant prior to satisfactory analysis of seismic risk, but contribute to the development of nuclear weapons at a time when the priority of ridding the world of them is more and more widely accepted.

Peter Wemyss-Gorman
Hickmans Lane
Hickmans Lane
Lindfield, ot RH16 2PX

154-1 NNSA notes the commentor's dismay regarding the construction of new plutonium pits and opposition to nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA intends to continue to perform environmental restoration activities at LANL. NNSA does not consider environmental restoration to be optional and progress on implementing those efforts is not linked to decisions on construction of the proposed CMRR-NF. Progress in performing environmental restoration activities at LANL is reported in the annual site environmental reports, which can be accessed at http://www.lanl.gov/environment/all/esr.shtml.

Commentor No. 155: Nicole Morgan

From: Nicole Morgan [EccentricSage@yahoo.com]
Sent: Tuesday, June 21, 2011 12:04 AM
To: nepalaso@doeal.gov
Subject: CMRR Nuclear Facility is dangerous and wasteful!

We have enough weapons and enough dangerous nuclear facilities in America as it is! We don't need more! THIS IS THE LAST THING OUR GOVERNMENT SHOULD BE SPENDING OUR MONEY AND RESOURCES ON DURING A DEPRESSION. ***155-1***

Nicole Morgan
1015 N. Raynor Ave.
Joliet, IL 60435

155-1 NNSA notes the commentor's opposition to the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 156: Carol De Marinis

From: Carol De Marinis [demarinis@taosnet.com]
Sent: Monday, June 20, 2011 5:32 PM
To: nepalaso@doeal.gov
Subject: Please stop the planned CMRR-NF

When is enough enough with the nuclear weapons?

Must we become an extinct species before we get it that we are all One and we need to give up this bad guy/enemy nonsense and the War is Wonderful mindset with its attendant business that is so profitable to a handful of Halliburtons, Blackwaters and Carlyles, while so many are devastated, wounded or ruined, or take the path of suicide to find peace, as so many American soldiers have done since America's longest war began.

My town, Taos, is downwind from the Los Alamos plutonium playpen, where the makers of fiendish weapons pull in wonderful salaries that you and I give to them in appreciation for their twisted scientific brilliance. We did not really need the first weapon Los Alamos gave the world. Germany had been defeated and Japan had been thoroughly bombed before August 1945. Hiroshima and Nagasaki began our change from Helper to the World to Biggest Bully on the Block. *156-1*

A fire that nearly wiped out the little town of Los Alamos on the rim of the Jemez caldera in 2000 sent thick awful smoke to the northeast for probably a month. I was diagnosed with bladder cancer the following year. A coincidence? *156-2*

When the trees burned that had grown in the canyons surrounding Los Alamos it was discovered that these were places where barrels of waste from Los Alamos work done long ago had been tossed off the rim. We had to wonder what was in the particles that caused the coughing and two weeks of red eyes. *156-3*

We now spend half our annual budget on war and related items such as the fear-mongering TSA that rummages through our underwear before we can board a commercial plane and the "Homeland Security" that wastes enormous amounts of money posturing and other more nefarious groups all under the name of national security.

Meanwhile, our bridges fall in the rivers they once spanned, our levees collapse, cities drown, jobs disappear and the buck is worth less every day, especially since it started going into circulation as debt.

The young and uneducated with few prospects join the military. Social Security and Medicare become burdens in the face of keeping the Department of Defense

156-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

156-2 A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. As noted in Chapter 4, Section 4.6.1.3, of the *CMRR-NF SEIS*, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of the NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself. Additional information is provided in the 2008 *LANL SWEIS* (DOE 2008a).

156-3 Smoke from all forest fires contains hundreds of organic and inorganic combustion products. As noted in Chapter 4, Section 4.6.1.3, the risk assessment study concluded that there was some evidence of adverse health effects from breathing high concentrations of particulate matter in the smoke, but that "Such exposures are associated with any forest fire" (RAC 2002). It is estimated that nearly 7,500 tons of particulate matter were released to the atmosphere by the Cerro Grande fire, only 10 percent of which came from LANL sources. Many studies have correlated exposure to fine particles with respiratory-related emergency room visits and hospital admissions, work and school absences, premature death, asthma, emphysema, heart disease, chronic bronchitis, and acute respiratory symptoms. Children, the elderly, and people with heart or lung disease or respiratory infections are more sensitive to particulate matter. The Risk Assessment Corporation report stated that "It is probable that the calculated risk from PM_{10} is greater than the risk from all chemicals and radionuclides combined" (RAC 2002).

156-4 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take

Commentor No. 156 (cont'd): Carol De Marinis

afloat. They cannot even account for billions of their waste and fraud. Remember the suitcases of paper money our "representatives" were spreading around Baghdad buying friends in the fine old democratic way.

The numbers of lives lost or ruined thanks to the USA's mighty forces of fear at work these past dozen years have added up to some horrific crimes against humanity. We owe the world an apology and a promise to make war no more.

We can begin by giving up nuclear weapons and eventually, when we finally make friends with ourselves, perhaps we will exchange paranoia for love and give up weapons altogether.

The National Nuclear Security Administration's plan to make a space for building new plutonium pits in Los Alamos is a terrible idea. I have listed a few different reasons I think this needs to be stopped.

Expanding the United States' nuclear weapons production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere. *156-4*

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. *156-5*

The Alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. *156-6*

Carol De Marinis
27 El Tros Road
Ranchos de Taos, NM 87557

place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

President Obama stated that the goal of a world free of nuclear weapons would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

156-5 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF.

Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

156-6 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

Commentor No. 157: Beth Enson

From: Beth Enson [wildmushroomsoup@gmail.com]
Sent: Monday, June 20, 2011 1:00 PM
To: nepalaso@doeal.gov
Subject: Comments on CMRR SEIS

Have we leaned NOTHING from the horror of Fukushima? The nuclear industry is extremely vulnerable to acts of nature, like tidal waves and earthquakes. The danger to all life far outweighs the benefits of nuclear power, and there is NO REASON to produce more costly nuclear weapons-- the ones we have already serve their purpose of mutual assured destruction. We cannot afford to waste precious resources on harmful nuclear projects. ***157-1***

Please see reason and put an end to this outrageous waste of our money and our planet.

Beth Enson
PO Box 503
a, NM 87514

157-1 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 158: Janet Kinniry

From: Janet Kinniry [kinnirylaw@comcast.net]
Sent: Sunday, June 19, 2011 8:35 PM
To: nepalaso@doeal.gov
Subject: I oppose the CMRR-NF

It is time for Los Alamos to change its mission. We do not need any more nuclear weapons that cause toxic nuclear waste. We have to stop making radioactive waste. The people of New Mexico do not want this and the world does not want it. *158-1*

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. It is time to stop whitewashing the facts. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. *158-2*

Stop the insanity.

Janet Kinniry
POB 154
Gardner CO 81040

Janet Kinniry
PO Box 154
Gardner, CO 81040

158-1 NNSA notes the commentor's opposition to LANL's mission and nuclear weapons. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. Also refer to Section 2.5, Cleanup and Waste Management, of this CRD for information about management of radioactive waste from CMRR-NF construction and operation.

158-2 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 159: KC Coburn

From: KC Coburn [kc.coburn1@gmail.com]
Sent: Friday, June 24, 2011 10:04 PM
To: nepalaso@doeal.gov
Subject: This idea is the pits :) Please don't...

Do we HAVE to have a new plutonium facility at the Los Alamos National Laboratory? Here is what worries me:

President Obama said he would work for a world free from Nuclear weapons - building this facility says the opposite of what he promised us and the world. If the world suspects we will continue doing the opposite of what we promise, won't THEY build nuclear weapons in defense? *159-1*

Also, the Department of Energy made a commitment to clean up legacy waste at Los Alamos Lab by 2015. Is that done? (no). Couldn't we spend the $6B on finishing that nasty business first? The public is counting on you to keep us safe, this feels like the wrong direction? *159-2*

I really don't have any political clout and I don't even know if this will be read, but it worries me that we say we are aware of the dangers of burning down the house, but we keep playing with matches any way. Thanks for reading this and anything you could do to stop the development of the new facility would please me greatly. *159-3*

KC Coburn
500 University Ave #738
Honolulu, HI 96826

159-1 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

159-2 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

159-3 Comment noted.

Commentor No. 160: Etta Smith

From: Etta Smith [essmith@cybermesa.com]
Sent: Saturday, June 25, 2011 9:21 AM
To: nepalaso@doeal.gov
Subject: Oppose nuclear facility at LANL

To: Mr. John Tegtmeier, CMRR-NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Re: CMRR-NF SEIS Comment

Date: June 24, 2011

Dear Mr. Tegtmeier:

I oppose the construction of the CMRR Nuclear Facility at the Los Alamos National (LANL) for the following reasons:

ENVIRONMENT

The Nuclear Facility is designed to have the capacity to prepare plutonium for up to 80 new pits (triggers for nuclear weapons) per year. It would store six metric tons (about 13,200 pounds) of plutonium, a very potent carcinogen. ***160-1***

LANL sits on a windswept mountain top, in a seismic area, where wildfires and contaminated run-off continue to threaten the health of all who live downwind and downstream from LANL. Plutonium and other radionuclides were found in organic gardens downwind from Los Alamos after the 2000 Cerro Grande fire. There is increasing evidence of groundwater pollution from the Lab, with more "expected over a period of decades to centuries as more of the contaminant inventory reaches the water table," according to a 2005 LANL report. Radionuclides have been detected in the Rio Grande, the source of drinking water for many citizens living downstream from the Lab. ***160-2***

Plutonium has a half-life of 24,000 years (meaning it is half as potent by then). So any pollution will continue for many, many thousands of years. In addition to cancer, radioactive materials can cause serious birth defects. This disproportionately impacts New Mexico's minority populations, especially Native and Hispanic, making it an issue of environmental injustice.

The Department of Energy (DOE) estimates that the maximum amount of water needed for construction would be 4.6 million gallons per year. However, an independent analysis figured that 6.75 million gallons of water would be used in ***160-3***

160-1 NNSA notes the commentor's opposition to construction of the CMRR-NF at LANL.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA agrees with the commentor's concern about plutonium being a potent carcinogen; the danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

160-2 NNSA acknowledges the commentor's concerns regarding impacts on the environment and people living in the LANL region. Chapter 4 of the *CMRR-NF SEIS* provides the environmental impacts analysis, which evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area.

The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

Commentor No. 160 (cont'd): Etta Smith

mixing 225,000 cubic yards of concrete planned under the structure to meet safety requirements due to potential seismic hazards (and we are not convinced that will protect against a major earthquake). Another 3.9 million gallons of water would be needed for the additional 130,000 cubic yards of structural concrete.

For each year of operation after construction, DOE estimates that the Nuclear Facility would use 16 million gallons per year. We live in a dry semi-desert climate getting ever more dry with global warming, and we cannot afford to waste such a huge amount of water. Better not to put a nuclear facility in an earthquake prone zone. ***160-3 cont'd***

Taos citizens, along with Senator Udall and Representative Lujan, requested a hearing for public comment in their town so they wouldn't have to travel through the canyon to get to a hearing in other locales, but the National Nuclear Security Administration told Sen. Udall that the NNSA expected no safety consequences for Taos from operating the CMRR Nuclear Facility. Yet the smoke carrying plutonium and other radionuclides reached Taos during the 2000 Cerro Grande Fire at LANL. And they received smoke from the current Wallow Fire in AZ 200 miles away. ***160-4***

Producing more plutonium pits will create more waste. We already have 700,000 metric tons of depleted uranium waste from weapons production. Depleted uranium has a half-life of 4.5 billion years. So far, there is no viable plan for storing this waste. Because LANL did not keep good records in the early years of operation, an unknown amount of tons of radioactive waste is stored in Area G at LANL, and tritium is releasing into the air. Our environment and our health cannot tolerate any more radioactive waste.

The existing waste at LANL needs to be cleaned up before any new radioactive or toxic waste is generated there. DOE made a commitment to clean up certain legacy waste sites at LANL by 2016 when it signed the Consent Order with the New Mexico Environment Dept. on March 1, 2005. Yet the House Appropriations Committee has recommended cutting the cleanup budget for LANL by $175 million (almost half of the request to meet the need). Taxpayer funds needs to go first for cleanup, instead of cutting domestic services to fund a $6 billion project when most U.S. citizens don't want to fund any more nuclear weapons. ***160-5***

Thank you for your consideration. I would like to receive only the summary of the final EIS, not the full report.

Regarding water quality concerns, there are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. Refer to Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, of this CRD, for more information on cleanup of past contamination.

NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Storm Water Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Storm Water Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment. All radioactive liquids would be transferred to RLWTF. At RLWTF, the liquids would be treated to meet discharge criteria and released through a permitted outfall or to a zero liquid discharge facility. Other liquids would be routed to the Sanitary Wastewater Systems Plant, where they would be treated prior to discharge through a permitted outfall.

The potential impacts on environmental justice due to construction (except for the Continued Use of CMR Building Alternative) and operations are addressed in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11. These analyses show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse impacts during implementation of any of the alternatives.

160-3 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. Tables S–2 and 2–3 indicate that the

Commentor No. 160 (cont'd): Etta Smith

shallow and deep excavation options would average approximately 4 to 5 million gallons of water usage each year. Over the 9-year construction period this would amount to about 36 to 45 million gallons of water used to support construction. The commentor is correct that the biggest difference in water usage between the 2 options would be the water needed to mix the low slump concrete needed for the deep excavation options. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

160-4 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

160-5 As previously noted, pit production activities would not occur in the CMRR-NF. The depleted uranium mentioned by the commentor is not stored at LANL and is not within the scope of the *CMRR-NF SEIS*. Cleanup of Material Disposal Area G is being performed in accordance with the Consent Order. NNSA does not consider compliance with the Consent Order to be optional and progress on

Commentor No. 160 (cont'd): Etta Smith

implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 161: Delores Kincaide

From: Delores Kincaide [dorieksl@yahoo.com]
Sent: Saturday, June 25, 2011 12:48 PM
To: nepalaso@doeal.gov
Subject: Responding to the CMRR SEIS

I recently heard about the proposed new plutonium facility at the Los Alamos National Laboratory, and I have a few concerns.

First, we live in tragic times of huge national debt and do not need to create further debt in "defense" of our country. We need to do only what is absolutely necessary to reduce waste in areas that could be set aside for now (and perhaps forever).

Secondly, we have thousands of pits already in storage which will last for at least 100 years. Therefore, more pits NOW are not necessary.

"Beware of the military-industrial complex" were wise words and this building project should be viewed with great suspicion.

161-1

Delores Kincaide
3 Cebolla Loop
Jemez Springs, NM 87025-9043

161-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 162: Ian Ford

From: Ian Ford [ilf@ianford.com]
Sent: Saturday, June 25, 2011 3:03 PM
To: nepalaso@doeal.gov
Subject: public comments on CMRR

I'm asking you to stop the CMRR on the grounds that (1) I understand it has not been proven to withstand likely eathquakes, and (2) the construction of materials that will be (or can be) used for new nuclear weapons will cause other nations to pursue more nuclear weapons, resulting a world that is more dangerous for everyone, not safer. *162-1*

Ian Ford
3110 Ninth NW
Albuquerque, NM 87107

162-1 NNSA notes the commentor's opposition to the CMRR-NF project. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*). Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 163: Clifton Bain

From: Clifton Bain [bain@newmex.com]
Sent: Sunday, June 26, 2011 9:28 PM
To: NEPALASO@doeal.gov
Subject: CMRR comment
Attachments: CMRR comment

Clifton Bain
PO Box 297 Arroyo Hondo, NM 87513

June 26, 2011

By email to: NEPALASO@doeal.gov

John Tegtmeier, CMRR-NF
SEIS Document Manager
Department of Energy – Los Alamos Site Office
3747 West Jemez Road
Los Alamos, NM 87544

Re: Need for the Department of Energy (DOE) to Withdraw the draft Supplemental Environmental Impact Statement (draft SEIS) for the Proposed Nuclear Facility of the Chemistry and Metallurgy Research Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL)

Dear Mr. Tegtmeier:

The draft SEIS is inadequate and technically indefensible for analysis of the risks of constructing and operating the proposed CMRR-Nuclear Facility with a capacity of quadrupling the current production of 20 plutonium triggers for nuclear weapons to up to 80 per year. I respectfully request that the DOE withdraw the draft CMRR-NF SEIS.

*** The National Environmental Policy Act (NEPA) requires a federal agency to provide a range of alternatives.** DOE has not provided workable alternatives. The "Modified CMRR-NF" Alternative would allow construction with enhancements to address the growing number of seismic issues. There are two construction options: the "Deep Construction Option" and an inadequately analyzed "Shallow Construction Option", which do not meet NEPA requirements. Assumptions were made for key parameters in the analyses of the Shallow Option. The draft SEIS fails to offer and analyze realistic alternatives and therefore must be withdrawn. ***163-1***

*** The draft SEIS misrepresents the seismic hazard at the location of the proposed CMRR-Nuclear Facility.** For example, a table in the 2007 Probabilistic Seismic Hazard Analysis reports a vertical peak ground motion acceleration of 0.6 ***163-2***

163-1 NNSA determined that a SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.2, NEPA Process, of this CRD for more information.

163-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The commenter also raises some issues that are addressed in detail in the response to comment 241.

Commentor No. 163 (cont'd): Clifton Bain

g [gravity], but the draft SEIS reports a lower g-force of 0.3 g. It is uncertain how this error impacts the overall NEPA analyses.

Further, both surface-rupturing synchronous and simultaneous earthquakes have occurred along the Pajarito Fault System. For these types of earthquakes, multiple synchronous earthquakes produce a greater seismic hazard than the simultaneous earthquakes. But the draft SEIS states the contrary that simultaneous ground-rupturing earthquakes produce a greater seismic risk. This error will have a tremendous impact on the overall NEPA analyses and must be corrected. The draft SEIS must be withdrawn.

These errors will ultimately result in the underestimation of the seismic hazard risk and the impacts to public health and the environment from releases from the proposed Nuclear Facility. The LANL scientists recommended that comprehensive field studies must be done to gather the necessary information about the seismic hazard. This must be done before a new EIS is submitted for public review and comment. ***163-2 cont'd***

* The draft SEIS demonstrates that DOE will continue to waste water for manufacturing nuclear weapons, create more radioactive, hazardous and toxic waste, spew pollution into the air, and exceed its existing electric power needs. ***163-3***

* Further, I am in solidarity with Santa Clara Pueblo Tribal Resolution No. 08-16 in which the Pueblo opposes the expansion of plutonium pit production at LANL and making that production capacity permanent. ***163-4***

Sincerely,

The response to comment 241-2 addresses the concern raised with respect to surface-rupturing and synchronous and simultaneous earthquakes. Briefly, the 2007 PSHA included both simultaneous and synchronous earthquake models in calculating design ground motions for TA-55. The PSHA did not calculate higher hazard for the simultaneous rupture, but the PSHA did estimate slightly higher maximum magnitudes for the simultaneous rupture model. Preferred maximum magnitudes for both simultaneous and synchronous ruptures were estimated using the same general approach, which has a sound technical basis. It is somewhat counterintuitive that the slightly bigger simultaneous earthquake can result in a lower ground motion hazard, but the two synchronous earthquakes result in higher ground motions for nearby sites, particularly when the site is located between the rupturing fault segments, because energy is coming from two sources.

Based on an apparent typographical error in the 2007 PSHA Executive Summary, the vertical peak ground acceleration for the CMRR-NF was incorrectly cited as 0.3 *g* instead of 0.6 *g* in the SEIS. This error has been corrected. This typographical error in the Executive Summary of the PSHA is not reflective of information presented elsewhere in the PSHA and was not used in the design of the proposed CMRR-NF.

Regarding additional field studies, it may be noted that potential seismic hazards at LANL have been the subject of numerous studies performed in the past 30 years. Additional studies are expected in the future based on priority and funding. As addressed in the response to comment 241-8, while the PSHA study acknowledges that additional data in these areas would provide a more complete understanding of the seismic hazard at LANL, NNSA believes there was sufficient information to complete the study. The uncertainties associated with these areas have been adequately captured and bounded by the results of the study.

163-3 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water

Commentor No. 163 (cont'd): Clifton Bain

Resources and Usage, of this CRD for more information on water resources at LANL.

Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. As summarized in Chapter 2, Table 2–3, no air quality standards would be exceeded. As discussed in Chapters 2 and 4, options for adding to or modifying the existing electrical distribution infrastructure at LANL to support the requirements of the proposed CMRR-NF are analyzed in the SEIS (for example, adding an electrical substation to TA-50).

163-4 Comment noted.

Commentor No. 164: Elsie Sandford

From: Elsie Sandford [lcsandford@earthlink.net]
Sent: Saturday, June 25, 2011 5:32 PM
To: NEPALASO@doeal.gov
Subject: CMRR Supplemental Environmental Impact Statement

The Supplemental Environmental Impact Statement (SEIS) for the CMR replacement facility (CMRR) at Los Alamos National Laboratory (LANL) appears to be complete and comprehensive, given the current knowledge of the local seismic geology. One thing that does not seem to have been considered in the public comment is the environmental impact that would occur if the CMRR is not completed. What would be the impact of an earthquake on the old CMR building, and the subsequent environmental damage? It's clear that LANL not only needs the new facility to continue work currently under way, but also as a safer alternative to the existing CMR building, which has virtually no earthquake resistance. ***164-1***

I live in Los Alamos, and I also work at LANL. I personally would appreciate a more robust facility than the old CMR building in which to continue work which is necessary for the security of the United States.

The SEIS for the new CMRR facility clearly addresses concerns about seismic vulnerability that the old CMR building lacks. New scientific work will also be done there that cannot be accomplished in the old facility.

Thank you for your consideration of my opinions.

Sincerely,
Elsie Sandford
Los Alamos, NM

164-1 NNSA notes the commentor's support for the new CMRR Facility. The *CMRR-NF SEIS* addresses the potential impacts of continued use of the CMR Building. Chapter 4, Section 4.4, of the SEIS presents the overall environmental impacts of continued use of the CMR Building. Section 4.4.10.2 addresses the potential health impacts on members of the public and workers from postulated accidents at the CMR Building. The potential impacts are also discussed in more detail in Appendix C. An earthquake that is severe enough to cause spills and perhaps fires and cause structural damage to the facility is evaluated and Table 4-43 of the SEIS presents the radiological impacts of a severe earthquake. With the operational and inventory constraints that are imposed on the facility by NNSA due to its age and construction, the radiological impacts of a severe earthquake on the public are not expected to cause short-term fatalities due to radiation and few, if any, latent cancers due to the radiation released. An earthquake this severe is expected to cause fatalities both at LANL and in Los Alamos due to injuries from falling debris and other direct earthquake effects.

Commentor No. 165: Ann-Nicole Cain

From: Nikki Cain [nikkicain09@gmail.com]
Sent: Saturday, June 25, 2011 6:38 PM
To: NEPALASO@doeal.gov
Subject: public comment for the proposed CMRR-NF SEIS at LANL

Dear Mr.John Tegtmeier, CMRR-NF SEIS Documnet Manager,

I am writing to express my disapproval of the DOE's plan to construct a site at Los Alamos National Labratory in Los Alamos ,N.M. to dump GTCC Waste and GTCC-like waste.

First of all, a complete new environmental impact statement (EIS) is needed, a SEIS can not adequately assess the impacts of a CMRR-NF at LANL. This is vital since the plan is to construct a site in a seismic fault zone. This is completely irresponsible to the local neighboring communities, to future generations, and to the world community. We should be looking at the events in Japan and realizing that not only do accidents naturaly occur but that they can effect the entire world. The cost of trying to build a plutonium pit production complex in a geologically unstable area are just too high, finacally and physically. People who live in the surrounding areas feel the seismic activity on a regular basis. People talk about the seismic tremors that they feel in the area. Although we are not a local that is known for earthquakes, the locals know that small ones happen and they happen regularly. Just a looking around at the local landscape from, Jemez Mountain to the Rio Grande Groge, one can tell that the earth is active here. To build any waste site here is irresponsible and reckless. ***165-1***

A new nuclear facility will detract from the cleanup of the existing mess in Los ALamos. Again, the locals know. We know that there are 50 - 60 year old sites at LANL that have never been cleaned up. We know that waste leeches out of the arroyos and down into the Rio Grande river. I even believe that there is Congressional evidence of this fact. All of that mess should be cleaned up and no new facilities should be allowed to operate and potentially further pollute the fragile ecosystem of the arid southwest. I personally live up stream from Los Alamos and feel grateful that I can take my family, my children, my pets to play in the waters of the Rio Grande. I wont touch the river after it passes Los Alamos. I was raised in Las Cruces, down stream of LANL. The river is damaged enough by damns, agriculture, the northern cities to make what was once a bountiful life force of the region into a ditch. All that waste goes into the agriculture in the south as the farmers pull the water out of the Rio Grande and into their fields. We'll have nuclear chili next. Why should we continue to poison ourselves further? The DOE has a responsibly to the people it serves not to pollute our children, our food, and our land. ***165-2***

165-1 NNSA notes the commentor's opposition to disposal of GTCC waste at LANL, but this is beyond the scope of this CMRR-NF SEIS and is the subject of another DOE EIS (DOE/EIS-0375D).

NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 165 (cont'd): Ann-Nicole Cain

The best alternative is for the DOE to develop others means of protecting and energizing our nation besides the use of nuclear devices. Poisoning the land for countless generations to come is what the DOE is really talking about when discussing plans to create anything related to nuclear energy or weapons. Despite popular ideas that nuclear anything can be clean and safe, we know that nuclear waste does not go away for thousands of years. So what if in 2099 we have an earthquake that is 5.0 or higher? What happens to the "safe" nuclear waste then? (Nuclear chili, for sure.) There are too many possibilities that can play out in the future to ever make nuclear waste "safe". It is a major sell-out to believe otherwise. Unforgivably, too many of the officials who are meant to protect us are on or have been on the payrolls of the industries that they are suppose to be protecting us from. It is the DOE's responsibly to put the public and future public's safety first. Zero nuclear activity is the only **165-3**

acceptable alternative. LANL could be turned into a facility that can create solutions for renewable energy needs, solutions for water shortages, solutions for climate control and change, solutions for the cultural devices that create terrorism. It's should be brain factory for the common good of all the peoples of the earth not the dump site for the destruction of lives through the pollution and derogation of our environment. All we really have is the future, we know it's coming and that nothing can stop it. What do we want it to look like? I, for one, would like to see the future is a place where all are welcome and safe. I would love nothing better than a nuclear free world because then I would know that no matter what my great-great-great-great granddaughter has to face in her life time that it wouldn't include cancers in her children and neighbors or mutations of food and wildlife. That she too can wake in the morning and breathe the clean air; grow her own food if she wishes, and live a life free of the stress and fear of what nuclear waste, energy and weapons can do. That she can trust in the physical world around her to provide and enliven her and not to poison her. **165-4**

Thank you for creating time for public comment. More time should be given for the public to educate themselves and create comments before action is taken . My personal information may be used to support my comment, so that it can be entered into the public comment record. **165-5**

Thank You,

Ann-Nicole Cain
6275 NDCBU
Taos, NM
87571
xxx-xxx-xxxx
nikkicain09@gmail.com

165-2 NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, for more information on cleanup of past contamination.

165-3 NNSA notes the commentor's opposition to the existence of nuclear weapons and nuclear power plants. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

165-4 Funding decisions regarding major Federal programs (for example, defense and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA acknowledges the commentor's concern that a nuclear accident could happen at LANL. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Nuclear facilities constructed at LANL must meet strict safety criteria set forth in Federal regulations and DOE orders, and criteria imposed as an outcome of safety

Commentor No. 165 (cont'd): Ann-Nicole Cain

analyses. Refer to Appendix C for a description of safety analyses performed for this *CMRR-NF SEIS*.

165-5 Comment noted.

Commentor No. 166: Kaiiba Mountain

From: Kaiiba Mountain [kaiibamountain@yahoo.com]
Sent: Saturday, June 25, 2011 7:15 PM
To: NEPALASO@doeal.gov
Subject: draft cmrr-nf seis

As a grandmother who cares deeply about our future generations..i strongly urge you to rethink this dangerous and insane project. Now is the time to end these instant gratification endeavers..there is a better way and im sure that with the so called geniouses running things out there you can come up with a better and safer and cleaner way. please think about the future of our planet and future generations..thank you.

166-1

166-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. See Section 2.3, Programmatic Direction and Decisions, and Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 167: Marta Harrison

From: Marta Harrison [sunnysandals4@comcast.net]
Sent: Saturday, June 25, 2011 11:16 PM
To: nepalaso@doeal.gov
Subject: Please do more research on the CMRR Nuclear Facility

I am writing to tell you how concerned I am with your plans at Los Alamos National Laboratory for a CMRR Nuclear Facility. After what happened in Japan a few months ago, i consider it a warning to conduct thorough research before building any new facility.

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn Since a new seismic analysis is underway at Los Alamos Lab which will impact the results regarding the design of the building, the Supplemental Environmental Impact Statement should be withdrawn until further studies are made. ***167-1***

3.9 million gallons of water would be needed for the additional 130,000 cubic yards of structural concrete. For each year of operation after construction, DOE estimates that the Nuclear Facility would use 16 million gallons per year. Global warming and the wildfires with the current drought means that we cannot afford to waste water: it is a precious commodity here in the Southwest. ***167-2***

The current draft Supplemental EIS (SEIS) was conducted to deal with the more dangerous seismic issues revealed in 2007. But now, 5 years later, new seismic analyses are being conducted indicating even more serious potential consequences. So, it seems to me that the 2003 EIS and the Supplemental EIS are outdated and and a new full EIS written only after the results of the new current seismic investigations are known!

Think about the children and adults living in the nearby area. Our environment and our health cannot tolerate any more radioactive waste. Please take the time to do the research needed! thank you. ***167-1 cont'd***

Marta Harrison

Marta Harrison
103 Camino Santiago
Santa Fe, NM 87501

167-1 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

167-2 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF

Commentor No. 167 (cont'd): Marta Harrison

Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Commentor No. 168: Cynthia Piatt

To: Mr. John Tegtmeier, CMRR-NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544
Re: CMRR-NF SEIS Comment
Date: June 24, 2011

Dear Mr. Tegtmeier:

I oppose the construction of the CMRR Nuclear Facility at the Los Alamos National (LANL) for the following reasons:

ITS IMPACT ON OUR PRECIOUS ENVIRONMENT:

I', sure that you realize the Nuclear Facility is designed to have the capacity to prepare plutonium for up to 80 new pits (triggers for nuclear weapons) per year. It would store six metric tons (about 13,200 pounds) of plutonium, a very potent carcinogen. **168-1**

LANL sits on a windswept mountain top, in a seismic area, where wildfires and contaminated run-off continue to threaten the health of all who live downwind and downstream from LANL. Plutonium and other radionuclides were found in organic gardens downwind from Los Alamos after the 2000 Cerro Grande fire. There is increasing evidence of groundwater pollution from the Lab, with more "expected over a period of decades to centuries as more of the contaminant inventory reaches the water table," according to a 2005 LANL report. Radionuclides have been detected in the Rio Grande, the source of drinking water for many citizens living downstream from the Lab. One oncologist in Albuquerque stated that 90% of his thyroid and brain cancer patients live in Los Alamos or the downwind Espanola Valley. **168-2**

Plutonium has a half-life of 24,000 years (meaning it is half as potent by then). So any pollution will continue for many, many thousands of years. In addition to cancer, radioactive materials can cause serious birth defects. This disproportionately impacts New Mexico's minority populations, especially Native and Hispanic, making it an issue of environmental injustice.

The Department of Energy (DOE) estimates that the maximum amount of water needed for construction would be 4.6 million gallons per year. However, an independent analysis figured that 6.75 million gallons of water would be used in mixing 225,000 cubic yards of concrete planned under the structure to meet safety requirements due to potential seismic hazards (and we are not convinced **168-3**

168-1 NNSA notes the commentor's opposition to construction of the CMRR-NF at LANL.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA agrees with the commentor's concern about plutonium being a potent carcinogen; the danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

168-2 NNSA acknowledges the commentor's concerns regarding impacts on the environment and people living in the LANL region. Chapter 4 of the *CMRR-NF SEIS* provides the environmental impacts analysis, which evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area.

The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

Commentor No. 168 (cont'd): Cynthia Piatt

that will protect against a major earthquake). Another 3.9 million gallons of water would be needed for the additional 130,000 cubic yards of structural concrete.

For each year of operation after construction, DOE estimates that the Nuclear Facility would use 16 million gallons per year. We live in a dry semi-desert climate getting ever more dry with global warming, and we cannot afford to waste such a huge amount of water. We are living in the driest year since 2004 and we continually ask the citizens to use less water (as we should be doing). As the residents of Santa Fe are using less water this year than years previously, isn't it imperative that LANL do the same?

168-3 cont'd

Taos citizens, along with Senator Udall and Representative Lujan, requested a hearing for public comment in their town so they wouldn't have to travel through the canyon to get to a hearing in other locales, but the National Nuclear Security Administration told Sen. Udall that the NNSA expected no safety consequences for Taos from operating the CMRR Nuclear Facility. Yet the smoke carrying plutonium and other radionuclides reached Taos during the 2000 Cerro Grande Fire at LANL. And they received smoke from the current Wallow Fire in AZ 200 miles away.

168-4

Producing more plutonium pits will create more waste. We already have 700,000 metric tons of depleted uranium waste from weapons production. Depleted uranium has a half-life of 4.5 billion years. So far, there is no viable plan for storing this waste. Because LANL did not keep good records in the early years of operation, an unknown amount of tons of radioactive waste is stored in Area G at LANL, and tritium is releasing into the air. Our environment and our health cannot tolerate any more radioactive waste.

The existing waste at LANL needs to be cleaned up before any new radioactive or toxic waste is generated there. DOE made a commitment to clean up certain legacy waste sites at LANL by 2016 when it signed the Consent Order with the New Mexico Environment Dept. on March 1, 2005. Yet the House Appropriations Committee has recommended cutting the cleanup budget for LANL by $175 million (almost half of the request to meet the need). Taxpayer funds needs to go first for cleanup, instead of cutting domestic services to fund a $6 billion project when most U.S. citizens don't want to fund any more nuclear weapons.

168-5

THE IMPACT ON JOBS:

The few supporters of the Nuclear Facility who spoke at the hearings claimed that the construction will add jobs to New Mexicans. But those jobs are temporary, and only for a few hundred workers. After the facility is built, almost all the workers will be transferred from other buildings. Even the Environmental Impact Statement admits that the socioeconomic impact on New Mexico is minimal. At this point, we should be investing in long-term jobs that encourage

168-6

Regarding water quality concerns, there are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. Refer to Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, of this CRD, for more information on cleanup of past contamination.

NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Storm Water Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Storm Water Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment. All radioactive liquids would be transferred to RLWTF. At RLWTF, the liquids would be treated to meet discharge criteria and released through a permitted outfall or to a zero liquid discharge facility. Other liquids would be routed to the Sanitary Wastewater Systems Plant, where they would be treated prior to discharge through a permitted outfall.

The potential impacts on environmental justice due to construction (except for the Continued Use of CMR Building Alternative) and operations are addressed in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11. These analyses show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse impacts during implementation of any of the alternatives.

168-3 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would

Commentor No. 168 (cont'd): Cynthia Piatt

the development and use of renewable energies rather than more nuclear facilities' construction!

The total cost of nuclear weapons complex across the country is estimated to be $180 billion over the next ten years. This is just too high in our failing economy. Money spent on unusable nuclear weapons do not spur economic growth. Rather than cutting domestic services to the poorest and most disadvantaged in our society in order to balance the federal budget, the $6 billion (and growing) could be used to create jobs for education, health care, mass transit, affordable housing, renewable energy, bridge upgrades, and better food distribution. ***168-6 cont'd***

Thank you for your consideration to this important matter. I would like to receive only the summary of the final EIS, not the full report. ***168-7***

Sincerely,
Cynthia Piatt
109 Camino Santiago
Santa Fe, NM 87501

exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

168-4 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

168-5 As previously noted, pit production activities would not occur in the CMRR-NF. The depleted uranium mentioned by the commentor is not stored at LANL and is not within the scope of the *CMRR-NF SEIS*. Cleanup of Material Disposal Area G is being performed in accordance with the Consent Order. NNSA does not consider compliance with the Consent Order to be optional and progress on

Commentor No. 168 (cont'd): Cynthia Piatt

implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

168-6 The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. Refer to Section 2.7, Economic Impacts, of this CRD for more information.

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

168-7 Comment noted.

Commentor No. 169: Kenneth Jacks

From: Kenneth Jacks [kennethjacks@hotmail.com]
Sent: Sunday, June 26, 2011 9:30 AM
To: nepalaso@doeal.gov
Subject: Registering my opposition to the CMRR Nuclear Facility

Stop wasting our money on wasteful weapons projects. There are many,many better ways to use these funds to ensure national security. ***169-1***

DO NOT FUND the CMRR Nuclear Facility at Los Alamos!!!.

Sincerely,

Kenneth Jacks
Santa Fe, NM

Kenneth Jacks
P.O. Box 8754
Santa Fe, NM 87504

169-1 NNSA notes the commentor's opposition to the CMRR-NF project. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 170: Beverly Busching

From: Beverly Busching [bbusching@mindspring.com]
Sent: Sunday, June 26, 2011 1:05 PM
To: nepalaso@doeal.gov
Subject: against the Nuclear Facility

Let's stop the new plutonium facility at the Los Alamos National Laboratory. Even though the first phase has been completed it is not too late to stop this facility which is a danger to us all.

The US should cease being hypocritical about nuclear weapons. If we ask other nations to cease development, we should lead the way by ppublically doing the same. I dont want my taxes funding such activities that contradict our commitment to humanity. *170-1*

Give government attention to cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE should devote my taxpayer funds to cleanup.

With hope for the future,

Beverly Busching

Beverly Busching
133 W Berger St
Santa Fe, NM 87505

170-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

As addressed in Section 2.5, Cleanup and Waste Management, of this CRD, NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress in implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF.

Commentor No. 171: Therese MacKenzie

From: Therese MacKenzie [terrishcj@aol.com]
Sent: Sunday, June 26, 2011 2:26 PM
To: nepalaso@doeal.gov
Subject: building nuclear facilities

I am totally opposed to any nuclear construction, and certainly not for anything related to nuclear weapons.

No one with the slightest accurate information would ever use one. So why build more?

I realize that the industries involved had big money and much power. Is that a reason to threaten our land, our water, our security?

171-1

The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

171-2

Therese MacKenzie
7040 N. Sheridan Rd. Apt. 503
7040 N. Sheridan Road
Chicago, IL 60626

171-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. See Section 2.3, Programmatic Direction and Decisions, and Section 2.4, CMR Mission, of this CRD for more information.

The commentor's concern regarding impacts on the environment and people (land, water, and security) is noted. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 4 of the *CMRR-NF SEIS* provides the environmental impacts analysis, which evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area.

171-2 Regarding commitment to clean up legacy waste, NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 172: Alicia Ramirez

From: alicia Ramirez [alicia477@comcast.net]
Sent: Sunday, June 26, 2011 8:22 PM
To: nepalaso@doeal.gov
Subject: Stop the proposed Nuclear Facility

Where will the nuclear waste be dumped??

Why don't we use solar energy or other natural sources and not have to depend on nuclear energy which is so dangerous?

I have family in Nevada and they do not want the nuclear waste dumped in the Yucca area.

Please consider other options,

172-1

Sincerely,

Alicia Ramirez
Denver, CO

alicia Ramirez
3145 W. Clyde Place
Denver, CO 80211

172-1 NNSA notes the commentor's opposition to nuclear energy. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF project. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on long-term storage of nuclear waste. Waste from the CMRR-NF would not be "dumped"; wastes would be managed in accordance with Federal and state laws and regulations. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 173: Anu Joshi

From: Anu Joshi [joshi.anu@gmail.com]
Sent: Monday, June 27, 2011 10:16 AM
To: nepalaso@doeal.gov
Subject: Are more Nuclear Weapons really what we need?

I am incredibly concerned by the CMRR project that is going to cost #6 billion!

173-1 The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start.

Thank you,

Anu Joshi
732 6th Street #307 SW
Washington, DC 20024

173-1 NNSA notes the commentor's concern about the CMRR-NF project and nuclear weapons. Activities that would be conducted at the proposed CMRR-NF include analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Commentor No. 174: Patricia Herron

From: Patricia Herron [patriciaherron@cableone.net]
Sent: Monday, June 27, 2011 10:22 AM
To: nepalaso@doeal.gov
Subject: responding to making more "pits"

I have a few concerns about your making more nuclear triggers.

One--we have more than enough nuclear "deterrent" weapons.

Two--the money should be spent on more life-giving expenditures, like clean water for all, solar ovens, etc.

Three--let's clean up the nuclear mess we have already created.

Four--teachers and schools are under "attack" because of lack of money. Money to make more nuclear triggers should obviously be spent better to help our true treasure, our true security--our children.

174-1

Thank you for your consideration,

Patricia Herron

Patricia Herron
380 Vancouver Rd SE
Rio Rancho, NM 87124

174-1 NNSA notes the commentor's concern about the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Regarding commitment to clean up legacy waste, NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 175: Lucy R. Lippard

From: Lucy R. Lippard [flip14@wildblue.net]
Sent: Monday, June 27, 2011 11:03 AM
To: NEPALASO@doeal.gov
Subject: to john tegtmeier

In respect for Santa Clara Pueblo (and our own safety as the Galisteo Basin is filled with smoke from the Conchas fire), I want to register my passionate opposition to the expansion of plutonium pit production at LANL. Lucy R. Lippard *175-1*

14 Avenida Vieja, Galisteo NM 87540

175-1 NNSA notes the commentor's opposition to pit production and the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 176: Mary Alice Trujillo/Andrea Guajardo Conejos County Clean Water, Inc.

June 28, 2011

By email to: NEPALASO@doeal.gov

John Tegtmeier, CMRR-NF
SEIS Document Manager
Department of Energy – Los Alamos Site Office
3747 West Jemez Road
Los Alamos, NM 87544

Re: Need for the Department of Energy (DOE) to Withdraw the draft Supplemental Environmental Impact Statement (draft SEIS) for the Proposed Nuclear Facility of the Chemistry and Metallurgy Research Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL)

Dear Mr. Tegtmeier:

Please accept this as a formal public comment from Conejos County Clean Water, Inc. ("CCCW") related to the draft Supplemental Environmental Impact Statement (draft SEIS) for the Proposed Nuclear Facility of the Chemistry and Metallurgy Research Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL) .

CCCW is a 501(c)(3) non-profit citizens' group, based in Antonito, Colorado, that is incorporated under the laws in the State of Colorado.

Background of CCCW and relationship to the Affected Environment

In June of 2010, concerned citizens incorporated into a Colorado non-profit organization, called CCCW. CCCW incorporated to promote awareness around health and environmental issues that affect residents in Conejos County. In particular, to build awareness surrounding the transfer from truck to rail of radioactive, hazardous and

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Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo Conejos County Clean Water, Inc.

toxic waste from LANL within 250 feet of the Rio San Antonio (River), a headwaters tributary to the Rio Grande (River).

CCCW is comprised of ranchers, teachers, small business owners, and concerned citizens. CCCW has a thirteen board member steering committee, and 402 general members.

The San Luis Valley (SLV) in south central Colorado is one of the largest sub-alpine Valleys in the world, encompassing over 8,100 square miles. Hemmed in on the west by the San Juan Mountains, and on the east by the Sangre de Cristo Mountains, the SLV ranges in elevation from 7,000 to over 14,000 feet, and contains the headwaters of the Rio Grande. The Rio Grande rises in the San Juan Mountains to the west of the SLV, flows south into New Mexico and Texas and empties into the Gulf of Mexico.

The SLV has many unique biological features, including areas identified as Natural Heritage areas, and is home to six endemic insect species.

The SLV is 122 miles long and 74 miles wide. This largely agrarian and ranching community is a relatively stable population. Many of the residents are eighth-generation. The oldest parish in Colorado, Nuestra Señora de Guadalupe, Our Lady of Guadalupe, lies at the southern end of Conejos County. Conejos County is part of the Sangre de Cristo National Heritage Area. About sixty percent (60%) of Conejos County's population is minority, and pride in the Hispanic heritage is evident in everything from the names of the rivers, mountains, and towns, to the local Spanish/English radio station. The median household income is less than half the national average at $24,744, and 38 percent of the children live in poverty (US Census 2000).

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Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo Conejos County Clean Water, Inc.

The SLV is known for its potatoes and alfalfa, and also grows barley, lettuce, wheat, peas, and spring grains. It has been a farm and ranching community for over 150 years, and many of the residents work in agriculture, following in the footsteps of their parents and grandparents. Many of the farmers and ranchers still practice traditional methods. It is the highest irrigated mountain plateau in the world, with about 7000 high-capacity wells – over half of which are irrigation wells.

The SLV contains over 5 million acres, of which 3.1 million acres – about 59 percent -- are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). Conejos County contains over 825,000 acres, of which 528,000 acres - about 64 percent – are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). This creates an important relationship between the public and private sectors in dealing with air and water quality issues in the SLV and Conejos County.

There are 18 incorporated towns in the SLV, many of which are located along the Rio Grande or its many tributaries. Six counties lie within this large geographical boundary. They are Alamosa, Rio Grande, Saguache, Mineral, Costilla, and Conejos. There are 21 villages and five incorporated towns in Conejos County. Conejos County is among the poorest counties in the country, and unemployment levels run above the state and national averages (Conejos County 10.5%; as of 2008-not including the chronically unemployed).

Conejos County is a populated area within the SLV affected by the proposed actions in the draft SEIS for the Proposed Nuclear Facility of the CMRR Project at LANL.

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Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo
Conejos County Clean Water, Inc.

Draft SEIS Document

CCCW would like to respectfully request a complete, new Environmental Impact Statement (EIS) be completed, *versus* a Supplemental Environmental Impact Statement (SEIS) for the reasons described below.

CCCW understands that a draft SEIS cannot adequately assess the impacts of a completely redesigned Chemical and Metallurgical Research Replacement-Nuclear Facility (CMRR-NF) building for processing of plutonium and nuclear materials at LANL. The original Environmental Impact Statement (EIS) of 2004, now supplemented by the draft SEIS, assessed a building designed to withstand only mild seismic events. LANL sits between the Rio Grande rift and the volcanic Jemez Mountains in a seismic fault zone (the Pajarito Plateau). A May 2007, updated seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. Given the instability of its building site, the most recent vastly fortified design for this building is still in flux. It is uncertain if the building's fire suppressant systems will be designed to address the extreme combustibility of plutonium. Not only is a SEIS inadequate to the new scope of the project, it is premature, because the building's design is not finalized. Only an EIS can adequately study the full impact of this much-altered building and until the design is finalized, even an EIS would be premature. ***176-1***

The costs of trying to build a plutonium pit production complex in a geologically unstable area are extremely high. The total original estimate for the CMRR Complex Project; including, the recently completed $363 million Radiological Laboratory Utility and Office Building (RLUOB), was around $600 million in 2004. The current estimate for ***176-2***

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176-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Per DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*, an EIS, or in this case an SEIS, must be completed prior to the start of the final or detailed design.

Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo Conejos County Clean Water, Inc.

the Nuclear Facility alone is $45 billion and rising. Will DOE include a risk analysis as to whether this growing price tag is too high a premium to pay for a new Nuclear Facility (NF) in a geologically unstable area?

176-2 cont'd

Will the draft SEIS study whether the unstable geological strata can support the weight of the redesigned building? To address these increased seismic hazards, DOE is considering plans to excavate 225,000 cubic yards of earth under the proposed NF and fill the hole with concrete. DOE must question: Can the surrounding geology support all that concrete? Would a seismic event cause the concrete "slab" to sink or shift? The draft SEIS also suggests a "Shallow Option" (floating the building's foundation above the geologically unstable tephra layer), an option whose feasibility is unknown, needing the further study from a complete EIS.

176-3

Purpose and Need

Does the US need eighty new plutonium pits per year? Will DOE conduct a "capacity study" to determine whether the existing facilities can be used instead of building the proposed NF, which would increase pit manufacturing capacity to at least eighty per year? Existing facilities have sufficed since 1999 when DOE limited plutonium pit manufacturing to twenty per year. Since US treaty obligations forbid both new nuclear designs and increased numbers of nuclear weapons in the US arsenal, the pits to be manufactured are touted as "stockpile stewardship" for maintaining existing nuclear weapons through replacement of old pits. However, a Jason study of aging plutonium argues against the need for pit replacement within the next hundred years.

176-4

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176-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. The correct cost estimate for the Modified CMRR-NF is about $6 billion not $45 billion as stated by the commentor. The decision will be announced in a ROD that will appear in the *Federal Register*. In accordance with NEPA regulations, the ROD cannot be issued any earlier than 30 days after publication of the *Final CMRR-NF SEIS*.

176-3 The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square kilometer]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option. A draft slope stability analysis has been prepared and determined that indicated that global slope stability is not an issue for the Deep Excavation Option (LANL 2011a:LANL site, 028). If the Deep Excavation Option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed.

The concerns expressed by the commentor about the Shallow Excavation Option not being a mature alternative appear to refer to statements in Chapter 1 and Chapter 2, Section 2.6.2.1, of the *Draft CMRR-NF SEIS* indicating that there was more uncertainty in the design of the Shallow Excavation Option because that design had not reached the same level of maturity as the Deep Excavation Option. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears

Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo
Conejos County Clean Water, Inc.

Boosting US capacity to build nuclear bombs could compromise US efforts for nuclear arms reduction, for the completion of non-proliferation treaties, and for persuading non-nuclear nations to abstain from acquiring their own nuclear weapons.

President Obama's call for a "world free of nuclear weapons" rings hollow, as he also proposes a windfall to the call for a "world free of nuclear weapons". Will this double message increase worldwide distrust of US intentions and thus ratchet up the world's nuclear tensions?

176-4 cont'd

Array of Alternatives

Will DOE develop more alternatives, including (a) a true "No Action" alternative of not building the Nuclear Facility; and (b) upgrading the existent old CMR building? CCCW understands the National Environmental Policy Act (NEPA) requires a federal agency to provide a range of alternatives. DOE has not provided workable alternatives. The "Modified CMRR-NF" Alternative would allow construction with enhancements to address the growing number of seismic issues. There are two construction options: the "Deep Construction Option" and an inadequately analyzed "Shallow Construction Option," which do not meet NEPA requirements. Assumptions were made for key parameters in the analyses of the Shallow Option.

The draft SEIS briefly considered and dismissed these alternatives as insufficient to "satisfy the entire range of DOE and NNSA mission support functions." The so-called "No Action" alternative featured in the current draft SEIS is to build a new CMRR building as projected in 2003 (a design failing to meet new seismic standards). The other featured draft SEIS alternative is to continue operations at the old, unsafe CMR

176-5

to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b). The Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

176-4 NNSA acknowledges the commentors' position regarding plutonium pit production levels and notes that decisions on the level of pit production are not within the scope of the *CMRR-NF SEIS*. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of stockpile stewardship and other functions performed at LANL. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Chapter 2, Section 2.9, Treaty Compliance, of this CRD for more information.

NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability

Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo Conejos County Clean Water, Inc.

Building, without upgrades. Both "alternatives" appear undesirable to the DOE. The draft SEIS fails to offer and analyze realistic alternatives. **176-5 cont'd**

Socio-Economics

How does money spent on unusable nuclear weapons spur economic growth? Los Alamos, the richest county per capita in the US does not need US budgetary charity, but it consumes a majority of federal funds coming to New Mexico. The rest of New Mexico, one of the nation's poorest states, needs the fulfillment of real human needs. Money for education, health care, green jobs, renewable energy, public transportation, all would keep circulating and foster sustainable economic growth. **176-6**

Natural Resources

The draft SEIS demonstrates that DOE will continue to waste water for manufacturing nuclear weapons, create more radioactive, hazardous and toxic waste, continue to pollute the air, and exceed its existing electric power needs. Furthermore, a new nuclear facility will detract from cleanup of the existing waste. DOE made a commitment to clean up the legacy waste sites at LANL when it signed the Consent Order with the New Mexico Environment Department of March 1, 2005. The Order requires cleanup of certain sites by December 31, 2015; including, the Area G dump site at Technical Area 54. Construction activities for a new NF will interfere with cleanup activities. **176-7**

Public Health

CCCW understands from the draft SEIS that manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and **176-8**

for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006e). It should be noted that plutonium aging is only one of the variables affecting nuclear weapon system reliability; other variables can control overall life expectancy of nuclear weapon systems.

NNSA acknowledges that there is substantial opposition to the nuclear weapons mission and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to CMRR-NF and Nuclear Weapons and Technology, of this CRD for more information.

176-5 NNSA acknowledges the commentor's concern regarding the No Action Alternative (2004 CMRR-NF) and Continued Use of CMR Building Alternative (i.e., the "true" No Action Alternative is continued use of the existing CMR Building at TA-3, rather than the construction and use of a new building at TA-55 based on the 2004 ROD). Refer to Section 2.2, NEPA Process, of this CRD for more information.

Chapter 2, Section 2.6, of the *CMRR-NF SEIS* provides a description of the alternatives. The Continued Use of CMR Building Alternative includes not constructing a replacement facility to house the capabilities planned for the CMRR-NF, but continuing to perform operations in the CMR Building at TA-3, with normal maintenance and component replacements at the level needed to sustain programmatic operations for as long as feasible.

The CMR Building would continue to be operated as a Hazard Category 2, Security Category III nuclear facility for as long as it could continue to be operated safely; this designation limits the amount of special nuclear material that can be used and the level of operations. These limitations do not currently support the missions that NNSA has assigned to LANL through the *SSM PEIS*, *LANL SWEIS*, and *Complex Transformation SPEIS* RODs. This alternative does

Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo
Conejos County Clean Water, Inc.

downstream. LANL inherited the US pit manufacturing function from Rocky Flats in Colorado. Rocky Flats became so polluted and unsafe that it had to be shut down. Rocky Flats had repeated plutonium fires, two of which came perilously close to breaching containment and spreading vaporized plutonium to the environment and likely rendering Denver uninhabitable. Plutonium is a killer carcinogen. LANL's discharges disproportionately sicken Native peoples and Hispanic New Mexicans. *176-8 cont'd*

Recommendations

The draft SEIS is inadequate and technically indefensible for analysis of the risks of constructing and operating the proposed CMRR-NF with a capacity of quadrupling the current production of twenty plutonium triggers for nuclear weapons to up to eighty per year. CCCW respectfully requests that the DOE withdraw the draft CMRR-NF SEIS.

Further, we are **in solidarity** with Santa Clara Pueblo Tribal Resolution No. 08-16 in which the Pueblo opposes the expansion of plutonium pit production at LANL and making that production capacity permanent.

Thank you for your careful consideration of CCCW's comments. Please keep us informed of any upcoming public meetings. We can be reached via email at info@conejoscountycleanwater.org. *176-9*

Respectfully submitted,

Mary Alice Trujillo, Chair

Andrea Guajardo, Board Member

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not completely satisfy NNSA's stated purpose and need to carry out AC and MC operations at a level to satisfy the entire range of DOE and NNSA mission support functions. However, this alternative is analyzed in this *CMRR-NF SEIS* as a prudent measure in light of possible future fiscal budgetary constraints. For more information, refer to Chapter 2, Section 2.6.2, of the SEIS.

In addition, Chapter 2, Section 2.7 of this *Final CMRR-NF SEIS*, was revised to better describe alternatives considered but dismissed from detailed analysis. These alternatives are: 1) alternative locations outside LANL; 2) Extensive Upgrades to the Existing CMR Building; and 3) moving capabilities to other LANL facilities. For the reasons described in Section 2.7, these alternatives are not being revisited in this *Final CMRR-NF SEIS*.

176-6 NNSA notes the commentor's concern regarding sustainable economic growth for the area and the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense, education, and health care) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

176-7 Chapter 4 of the *CMRR-NF SEIS* presents the potential environmental impacts of the proposed alternatives including impacts to waste management, air quality, and infrastructure (including water and electrical supply).

NNSA intends to continue implementing those actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Chapter 2, Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

176-8 The existing human health and environmental conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human

Commentor No. 176 (cont'd): Mary Alice Trujillo/Andrea Guajardo Conejos County Clean Water, Inc.

Cc:
Gail Schwartz – State Senator
Ed Vigil – State Representative
Erin Minks – Representative for U.S. Senator Mark Udall
Brenda Felmlee – Representative for U.S. Congressman Scott Tipton
Charlotte Bobicki – Representative for U.S. Senator Michael Bennet
Steve McCarol – Conejos County Commissioner Board President
Mike Trujillo – Antonito Town Mayor

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health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect the workers and public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10 of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

176-9 NNSA notes the commentor's opposition to the CMRR-NF project and opinion that the *CMRR-NF SEIS* is inadequate and technically indefensible for analysis of the risks of constructing and operating the proposed CMRR-NF, thus requesting DOE to withdraw the draft SEIS. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. The need for CMRR-NF is not connected to a specific level of pit production.

Commentor No. 177: Jeanne Bahnson

From: jeanne [jeannebahnson@yahoo.com]
Sent: Tuesday, June 28, 2011 11:48 AM
To: NEPALASO@doeal.gov
Subject: Environmental Impact Statement Needed, Not a Supplemental

6/28/2011

To Whom it May Concern:

I would like to go on record in expressing the following comments regarding the proposed construction of the CMRR facility at Los Alamos National Laboratories.

A Complete, New Environmental Impact Statement is Needed, Not A Supplemental Environmental Impact Statement. The original Environmental Impact Statement in 2004 assessed a building designed to withstand only mild seismic events. A 2007 updated seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. I understand that even Lab scientists have expressed grave concerns regarding this matter.Only a full Environmental Impact Statement can adequately study the full consequences of increased possibility seismic events might have on the proposed bomb plant. *177-1*

This draft SEIS should be withdrawn until the details of the Seismic Risks are better understood and no more funds used for planning at this time. *177-2*

Valid Alternatives Must Be Considered in the Supplemental Environmental Impact Statement. DOE must develop and consider new alternatives, including a true "No Action" alternative--not building the Nuclear Facility and upgrading the existing plutonium production building. *177-3*

The Costs to Build a Plutonium Pit Production Complex Are Just Too High. The total original estimate for constructing the new nuclear weapons complex at Los Alamos National Laboratory was approximately $600 million in 2004. The current estimate is $5.8 billion.

The US does not need 80 new plutonium pits per year. Just as new seismic information has forced a re-evaluation of the construction, new cost information must force a re-evaluation of the cost. *177-4*

Thank you for your consideration of the foregoing comments.

Jeanne Bahnson
111 East Lupita Rd.
Santa Fe, NM 87505

177-1 NNSA notes the commentor's request for a new environmental impact statement. The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare a supplement when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Please refer to Section 2.2, NEPA Process, of this CRD.

177-2 NNSA notes the commentor's concerns regarding our understanding of the seismic risks. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD.

177-3 Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). Although many commentors expressed a preference for a No Action Alternative

Commentor No. 177 (cont'd): Jeanne Bahnson

such as not proceeding with CMRR-NF, and upgrading the existing CMR Building, such an alternative does not meet NNSA's stated purpose and need (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003.

In addition to an alternative involving constructing and modifying a Modified CMRR-NF, NNSA considers an alternative (described in Chapter 2, Section 2.6.3) in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. In response to public comments, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* was revised to add more information regarding alternatives that were considered but dismissed from further analysis. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

177-4 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 178: Roger Eaton

From: Roger Eaton [rogerweaton@gmail.com]
Sent: Tuesday, June 21, 2011 5:27 PM
To: nepalaso@doeal.gov
Subject: I oppose construction of the Nuclear Facility

I was just recently told about your possible new plutonium facility at the Los Alamos National Laboratory. I am very much against this new project.

The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility.

Manufacturing plutonium pits are a danger in construction and God help us if they are ever used.

178-1

Roger Eaton
355 Serrano Dr Apt 4F
Apt 4F
San Francisco, CA 94132

178-1 NNSA acknowledges the commentor's opposition to the construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

Commentor No. 179: Gordon Burghardt

From: gburghar@comcast.net
Sent: Monday, June 27, 2011 10:31 PM
To: NEPALASO@doeal.gov
Subject: Stop the bomb business

People,

I just heard about the proposed new plutonium facility at the Los Alamos National Laboratory. As a citizen who has been concerned about the wasteful and dysfunctional preoccupation with nuclear proliferation and misguided national security, I think the line must finally be drawn. Money spent on nuclear weapons does not spur economic growth and only encourages other countries to build bombs. Then we need to spend billions studying, spying, and countering them. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth. *179-1*

Manufacturing plutonium pits is also dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. *179-2* Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. *179-3* The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. *179-4*

Gordon Burghardt
Knoxville, TN 37920

179-1 NNSA acknowledges the commentor's concern with the money spent on nuclear weapons. NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

179-2 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

179-3 As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

179-4 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 180: Jack Hastert

From: Jack Hastert [jhastert@Bosco.org]
Sent: Tuesday, June 28, 2011 3:00 PM
To: nepalaso@doeal.gov
Subject: CMRR

Hello,

This email is to protest the building of a new Chemistry and Metallurgy Research Building in New Mexico.

I have 3 primary reasons for opposing this. *180-1*

#1 – The cost is too much and already much higher than projected in 2004.

#2 – We have enough plutonium pits. *180-2*

#3 – The proposed new site is too near a fault line. *180-3*

Thank you very much for your consideration.

Jack Hastert
9th/10th grade counselor and Golf Coach
(xxx) xxx-xxxx ext. xxx

Celebrating a 70 Year Legacy of Salesian Excellence.

See Don Bosco…Be Don Bosco.

180-1 NNSA recognizes the commentor's opposition to construction of the CMRR-NF due to the cost. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

180-2 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

180-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 181: Marylia Kelley, Executive Director, and Scott Yundt, Staff Attorney, Tri-Valley CAREs

T r i – V a l l e y C A R E s

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June 29, 2011

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Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
USDOE, NNSA, Los Alamos Site Office
3747 West Jemez Rd., Los Alamos, NM 87544

Re: Tri-Valley CAREs' Public SEIS Comment on the Dept. of Energy (DOE) National Nuclear Security Administration's "Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at the Los Alamos National Laboratory"(the CMRR-NF).

Tri-Valley CAREs submits these comments on the Supplemental Environmental Impact Statement (SEIS) for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory (LANL) (DOE/EIS-0375-D). As explained herein, the SEIS fails to provide an accurate, complete or legally adequate analysis as is required by the National Environmental Policy Act (NEPA).

Tri-Valley CAREs was founded in 1983 in Livermore, California by concerned neighbors living around the Lawrence Livermore National Laboratory. Tri-Valley CAREs monitors nuclear weapons and environmental clean-up activities throughout the US nuclear weapons complex on behalf of its 5,600 members. Tri-Valley CAREs also seeks to eliminate waste, fraud and abuse from the oversight and management of facilities that make up the nuclear weapons complex. Due to concerns among our community about the negative environmental, health, cost, non-proliferation, and security implications of constructing and operating the CMRR-NF as planned in this SEIS' "preferred alternative," Tri-Valley CAREs submits this comment on the draft document.

The purpose of NEPA is to ensure that every federal agency prepares a full Environmental Impact Statement (EIS) for major federal actions significantly affecting the quality of the human environment.[1] An EIS must provide a "full and fair discussion of significant environmental impacts and shall inform the decision-makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment."[2]

[1] 42 U.S.C. 4332; 40 CFR 1501.
[2] 40 CFR 1502.1.

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Commentor No. 181 (cont'd): Marylia Kelley, Executive Director, and Scott Yundt, Staff Attorney, Tri-Valley CAREs

As described below, the SEIS is inadequate to provide a full NEPA analysis. The SEIS fails to include an adequate analysis of reasonable alternatives, fails to provide an adequate purpose and need statement, improperly segments the proposed action from other connected actions, and fails to include terrorism risk analysis. Additionally, the SEIS neglected to address many of Tri-Valley CAREs' (TVC) comments that were provided during the scoping period and only minimally addressed the comments that earned a reply in the SEIS. For these reasons, a new EIS is required and should be re-circulated for public review and comment.

I. A New, Full Environmental Impact Statement ("EIS") is Necessary.

A. Further Analysis of the Expected Costs of the Facility Must be Included.

The costs to build this new plutonium pit production complex are just too high – and estimates are still continuing to rise. The total original estimate for constructing the new nuclear weapons complex at Los Alamos National Laboratory was reported to be approximately $600 million in 2004. The current estimate is around $5.8 billion. What percent of the additional billions in recent cost estimates are due to efforts to address the increased seismic hazard? DOE must analyze whether this premium is too high and examine other options, including the alternative highlighted below and outlined in Tri-Valley CAREs' scoping comment (yet ignored in the SEIS).

181-1

The SEIS fails to address the underlying rationale for the CMRR-NF, i.e., that its construction and operation would enable the technical capability at LANL to expand plutonium pit (bomb core) production from the current allowable limit of 20 pits per year to up to 80 pits per year. The US does not need 80 new plutonium pits per year. DOE must conduct a "capacity study" to determine whether the existing facilities can be used instead of building the proposed CMRR-NF, which would increase pit-manufacturing capacity to at least 80 per year. Existing facilities have sufficed since the 1990s when DOE made the decision to allow plutonium pit manufacturing at LANL at up to 20 per year. Given that the US now has fewer deployed weapons and an articulated policy not to produce new design nuclear weapons, it is a notable deficiency that the SEIS would put LANL on the path to enabling expanded pit production with no new or updated analysis to explain why (see also purpose and need, below).

And, finally, just as new seismic information has forced a re-evaluation of the construction, new cost information must force a re-evaluation of the cost/value/need that DOE perceives. Yet, the SEIS provides none.

B. Existing Analysis of the Seismic Hazards Must be Updated.

181-2

The original Environmental Impact Statement in 2004 assessed a building designed to withstand only mild seismic events. A 2007 updated seismic hazards analysis showed a potential, major increase in seismic ground motion and activity. Los Alamos National Lab sits between the Rio Grande rift and the volcanic Jemez Mountains in a seismic fault zone. Only a full EIS can adequately study the full consequences of increased seismic events and what effect they might have on the proposed plant.

The SEIS should be withdrawn until the details of the Seismic Risks are better understood. For example, the cost-saving (comparatively speaking) Shallow Option, in which the foundation would be constructed in a geologic layer above a poorly welded tuff layer, is not a mature concept, and it is not yet fully known if this option will be safe. The SEIS fails to

2

181-1 NNSA notes the commentor's opposition to the construction and operation of the CMRR-NF. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

181-2 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 181 (cont'd): Marylia Kelley, Executive Director, and Scott Yundt, Staff Attorney, Tri-Valley CAREs

accurately analyze how impacts to the environment from the Shallow Option construction may be different from other options, and under what circumstances.

There are more new seismic investigations currently underway at LANL. This SEIS must be withdrawn and a new EIS undertaken after the results of these new investigations are known. Proceeding with a design before seismic risks are better known will only repeat the process that led to the DOE admission of need for this Supplemental EIS.

181-2 cont'd

C. Current Conditions Require Further Analysis on the Threat of Wildfires.

In the past 11 years two wildfires have come dangerously close to causing and/or caused serious problems at LANL. The Cerro Grande (2000) and the still raging Las Conchas (2011) wildfires demonstrate that fires are a real, and possibly increasing, threat to the security of radioactive materials and wastes at LANL. Current analysis of wildfires at LANL is inadequate and must be reevaluated, given the recurrent incidence of wildfires in the surrounding areas.

181-3

II. The SEIS Fails to Include an Adequate Analysis of Reasonable Alternatives.

The twin functions of the Environmental Impact Statement (EIS) are to "require that agencies take a 'hard look' at environmental consequences, and provide for broad dissemination of relevant environmental information." See *Robertson v. Methow Valley*, 490 US 332, 350 (1989). The discussion of alternatives is the legally required heart of any EIS. 40 CFR § 1502.14. The legally adequate EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." 40 CFR § 1502.14(a). "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate…" *Southeast Alaska Conservation Council v. FHA*, 2011 U.S. App. LEXIS 9097, 16-17 (9th Cir. 2011) "Informed and meaningful consideration of alternatives — including the no action alternative — is thus an integral part of the statutory scheme." *Id*.

A. Space that can be Made Available in PF-4 is a Reasonable Alternative that Must be Rigorously Explored and Objectively Evaluated in a New/Revised EIS

In Tri-Valley CAREs scoping comments on the SEIS, we provided a reasonable alternative to the construction of the CMRR-NF. We wrote, "… Given that the CMRR Radiological Laboratory Utility and Office Building (RLUOB) is build and is slated to become operational within 2 years, its capabilities must be taken into account. Further, given that the CMRR-NF is not slated to be completed until about 2020, other relevant LANL activities between the present and 2020 must be included in the analysis. (In other words, the issue is not merely what LANL could do differently today, it is what LANL could do differently by 2020 that must be considered in the NEPA analysis. In this context, LANL's PF-4 must be considered in conjunction with the CMRR RLUOB.

"That analysis must take into account that PF-4 presently holds equipment that need not stay until 2020, such as the ARIES "pilot project," which was never supposed to be permanent there. Additionally, PF-4, we were told by LANL management, has other space that could be available in the future but which presently holds contaminated plutonium wastes in acid, a waste management issue waiting to be dealt with.

181-4

3

181-3 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources). For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

181-4 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). Refer to Section 2.2, NEPA Process, of this CRD for more information.

NNSA disagrees with the commentor regarding its failure to analyze all reasonable alternatives. As discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, use of the TA-55 Plutonium Facility was also considered by NNSA to determine if that proposed combination, together with the planned future use of RLUOB would provide adequate space for analytical chemistry and materials characterization operations over the long term. However, augmenting the existing TA-55 Plutonium Facility with only additional vault storage space would not alleviate the need for additional work space for analytical chemistry and materials characterization laboratory operations. Space does not exist, and would not be expected to exist later, in the TA-55 Plutonium Facility to support this work and these operations cannot be accomplished within RLUOB because RLUOB is not able to support the level of radiological operations

Commentor No. 181 (cont'd): Marylia Kelley, Executive Director, and Scott Yundt, Staff Attorney, Tri-Valley CAREs

"Therefore, a reasonable alternative could be to devote a small portion of the massive resources that would have been used to construct the CMRR-NF to clean out the areas in PF-4 that could be made available and pair that capability [in PF-4] for "heavy lab" activities with the "light lab" capabilities of the already-built CMRR-RLUOB."

Since we wrote that scoping comment excerpted above, the schedule for the CMRR-NF has slipped again, to 2035. And, the CMRR-NF costs have risen yet again. And, estimates of the considerable seismic uncertainties associated with its construction have also risen. And, the RLUOB has proceeded to completion. And, there has been no NEPA decision changing the current LANL production limit of 20 pits per year. Thus, the detailed alternative we submitted, which was completely reasonable at scoping, has changed only in that it has become even more so. Yet, DOE failed to analyze this alternative in the SEIS, in violation of NEPA.

B. The SEIS Failed to Include a No Build Alternative

Instead of evaluating a no-build alternative, the SEIS included a "no-action" alternative that entailed construction and operation of a new CMRR-NF at TA-55 adjacent to RLUOB, as analyzed in the 2003 CMRR EIS**. This is not a true no-action alternative.** NEPA requires that DOE study an alternative that involves not going forward with the proposed project. A more reasonable no-action alternative that should be studied in a future EIS is not building any CMRR Nuclear Facility and maintaining the pit production at current levels. DOE failed to study meaningfully consider a true no action alternative in violation of NEPA. This deprived the public and decisionmakers of the opportunity to "make an informed comparison of the alternatives." *Animal Def. Council v. Hodel*, 840 F.2d 1432, 1439 (9th Cir. 1988)

181-4 cont'd

C. The SEIS' Purported "No Action" Alternative is Not a Reasonable Alternative and Should Have Been Eliminated from Further Study

The SEIS' "no-action" alternative is not a true no action alternative but is a sham alternative. The SEIS immediately eliminates the alternative from analysis because it "would not meet the standards for a Performance Category 3(PC-3) structure as required to safety conduct the full suite of NNSA AC and MC mission work." The SEIS summary states "the 2004 CMRR-NF would not be constructed." Therefore the SEIS does not provide this alternative for public review or comparison rendering it a sham alternative.

In fact, the entire alternatives analysis fails to provide a suite of options for an informed comparison of alternatives. The ***only*** "alternative" that DOE does not summarily rule out is the agency's "preferred alternative" (see, for example, pp S-8-9 and S-20.)

III. The Purpose and Need Statement Omits Critical Reasons for the Proposed Action.

An EIS must explain the underlying purpose and need to which the lead agency is responding with the proposed action. 40 CFR § 1502.13. NNSA made the decision to draft a supplement to the CMRR EIS due to significant new circumstances and information that is relevant to the environmental impacts of the facility. (CEQ NEPA Regulations 40 CFR 15029[c][1]). The CEQ advises that an EIS more than five years old should be carefully scrutinized to determine whether a supplement is required. As part of this scrutiny, the agency should determine whether the purpose and need for the project remains the same. Thus, in drafting the CMRR-NF SEIS, NNSA should have re-examined the purpose and need for the proposed project.

181-5

4

required to support the work needed. As discussed in Section 2.5, RLUOB contains a radiological laboratory capable of handling less than Hazard Category 3 radioactive materials per DOE-STD-1027. As a result, RLUOB is only authorized to use gram quantities up to 8.4 grams (0.3 ounces) of plutonium-239 equivalent, while the CMRR-NF is being designed as a Hazard Category 2 facility capable of using kilogram quantities of plutonium-239 equivalent. This alternative was, therefore, not analyzed further in the *CMRR-NF SEIS*.

Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and/or not proceed with CMRR-NF, or would abandon pit production at LANL, such an alternative does not meet NNSA's stated purpose and need (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). Thus, an alternative of ceasing CMR operations is not addressed in the *CMRR-NF SEIS*. The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

181-5 As discussed in Chapter 1, Section 1.5, of the *CMRR-NF SEIS*, NNSA is not planning at this time to revisit either the need for the CMRR-NF or relocating the CMR capabilities at another site. NNSA has addressed the CMRR-NF in a series of NEPA documents since the 2004 ROD for the *CMRR EIS* that announced its decision to locate a two-building CMRR Facility at TA-55. The *Complex Transformation SPEIS* (DOE 2008b), which addressed transforming the nuclear weapons complex into a smaller, more efficient enterprise, also addressed the location for manufacturing and research and development involving plutonium. In the ROD for that document (73 FR 77644), NNSA announced its decision that the mission would remain at LANL and its decision to construct and operate the CMRR Facility at LANL. Based on these decisions and the authorization for the project and appropriation of funding, NNSA intends to proceed with the CMRR-NF planning process. The need for the CMRR-NF is not connected to a specific pit production rate. As described in Chapter 1, Section 1.2, of the *CMRR-NF SEIS*, NNSA has been required to suspend some types of materials characterization work because of limitations in the CMR Building.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the

Commentor No. 181 (cont'd): Marylia Kelley, Executive Director, and Scott Yundt, Staff Attorney, Tri-Valley CAREs

Because there have been significant changes in the circumstances surrounding the purpose and need of the CMRR-NF, the stated purpose and need should have been revised. The CMRR-EIS was completed in 2004, but "project planning and design for the CMRR-NF…has progressed along a slower timeline than projected in the *CMRR EIS*." (CMRR-NF SEIS at S-2). NNSA acknowledges that "over the past 7 years, the CMRR-NF planning process has identified several design considerations that were not envisioned in 2003," and that the LANL SWEIS and the Complex Transformation SPEIS and their RODs, which included decisions on the size, scope, purpose and mission of the CMRR-NF, were issued in 2008 and 2009. Additionally, many relevant events took place over the past seven years, including President Obama's Nuclear Posture Review (2008) and The New Strategic Arms Reduction Treaty with Russia (2010), that also have direct relevance to the size, scope, purpose and mission of the CMRR-NF (CMRR-NF SEIS at S-2). However, the CMRR-NF SEIS claims that "[t]he purpose and need for the NNSA action has not changed since the issuance of the 2003 CMRR EIS and makes no assertion that it examined the purpose and need for the facility in light of the passage of time and these intervening events.

The CMRR-NF cites the Final Complex Transformation SPEIS of 2008. It analyzed the "50/80 alternative," and found that "completion of the CMRR Facility would be needed to support production of up to 80 pits per year." (FCTS PEIS at S-39). However, no Record of Decision (ROD) was ever published determining that the agency or LANL required up to 80 plutonium pits per year to support its mission. Despite the lack of decision, the CMRR-NF SEIS proposes an expanded CMRR-NF that enables this 50/80 plutonium pit per year capacity. Yet, LANL still operates pursuant to its 2009 LANL SWEIS ROD, which only allows a production capacity of 20 pits per year.

181-5 cont'd

In evaluating whether the purpose and need for the CMRR-NF remains the same as stated in the 2003 EIS, the NNSA should have examined the "needed" level of production capacity the CMRR-NF. In doing so, it must consider that LANL is currently only authorized to produce 20 pits per year despite visiting that issue in 4 NEPA documents (the SSM PEIS, the 2008 and 2009 SWEISs and the Complex Transformation PEIS). By rushing toward a CMRR-NF Record of Decision in this SEIS to meet a need - and provide the technical capability - to produce up to 80 plutonium pits per year without any underlying pit production ROD, has the agency "putting the cart before the horse."

This is a situation akin to the movie "Field of Dreams." If the DOE builds it (the CMRR-NF), they will come (increased production of pits). And, without the integrated and full NEPA review required by law.

The SEIS also should take into consideration relevant external circumstances. For example, the US is reported to have a total of approximately 40,000 plutonium pits in storage and on weapons under US control. Approximately 5,000 of those pits are deployable as nuclear weapons. In total, the US has constructed approximately 70,000 nuclear weapons and used two of the weapons more than 60 years ago.

None of the US invasions of at least 18 foreign nations, including Iraq and Afghanistan, has required the use of nuclear weapons (nor should they have). The current President's Nuclear Posture Review does not state or determine (or change) the number of plutonium pits the US requires, but does purport to reduce the nation's reliance on nuclear weapons in future military strategy and forego the production of new design nuclear weapons.

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safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

See the response to comment 181-1 for a discussion regarding the production of plutonium pits.

Commentor No. 181 (cont'd): Marylia Kelley, Executive Director, and Scott Yundt, Staff Attorney, Tri-Valley CAREs

Additionally, the New Strategic Arms Reduction Treaty between the U.S. and Russia (ratified since the scoping period closed) calls for reductions in deployed, strategic nuclear weapon stockpiles. In considering the circumstances above, and others, how can the agency claim that the "purpose and need" for the CMRR-NF should not be scaled back greatly? (And, again, how can the agency ignore that its "preferred option" can enable a production rate of up to 80 new plutonium pits per year, which is undeniably scaling up while the arsenal scales down?) ***181-5 cont'd***

IV. The SEIS Fails to Include Analysis of Risks Associated with a Terrorist Attack.

There needs to be a thorough analysis of the risks of a terrorist attack at the CMRR-NF in the SEIS. The analysis should include the risk of both "outsider" and "insider" attacks in compliance with the DOE's Office of NEPA Policy and Compliance 2006 Guidance Memorandum," Need to Consider Intentional Destructive Acts in NEPA Documents." While general terrorism analyses have been made that cover LANL in other NEPA documents, the changes in size and scope of the CMRR-NF detailed in the SEIS propose new and unanalyzed potential threats if a terrorist act were to occur at the facility. This analysis, to the maximum extent possible, should be made public in an unclassified document for public comment during the NEPA process. This point was also raised in Tri-Valley CAREs public comment period during Scoping and was not responded to in the SEIS in violation of NEPA. ***181-6***

V. The SEIS Failed to Respond to Tri-Valley CAREs' Comments Provided During Scoping.

The SEIS failed to adequately respond to Tri-Valley CAREs' comments provided during the scoping period. Many of the comments were given a cursory reply and some were altogether disregarded. Our comments regarding a reevaluation of the purpose and need of the CMRR-NF were not addressed in the SEIS. Additionally, there was no analysis concerning the risks associated with terrorist attacks at the new facility. Furthermore, our comment regarding the impact on the nation's nuclear Non-Proliferation Treaty obligations should have yielded a response. All of these comments provided by TVC discussed significant impacts that the CMRR-NF will have on the natural and human environment, and as such, they should be addressed in a new EIS or, at a minimum, a properly completed and re-circulated new draft Supplemental EIS. ***181-7***

We did receive confirmation of your office's receipt of our scoping comments. Moreover, they have been publicly available on our website at www.trivalleycares.org under "technical letters and comments," should you have misplaced them during the production of the SEIS. And, we have not moved our office or changed our phone, fax or other contact numbers. Therefore, we can only conclude that you failed to analyze them properly in violation of NEPA.

For Tri-Valley CAREs,
/s/
Marylia Kelley, Executive Director
/s/
Scott Yundt, Staff Attorney
2582 Old First Street
Livermore, CA 94550

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181-6 As stated in NNSA's response to the scoping comment summary in Chapter 1, Section 1.7, in the *Draft CMRR-NF SEIS*, a classified appendix was prepared to address the impact of intentional destructive acts, which include terrorism. Substantive details are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. The appendix was prepared in accordance with DOE's Office of NEPA Policy and Compliance 2006 Guidance Memorandum, "Need to Consider Intentional Destructive Acts in NEPA Documents." Refer to Chapter 4, Section 4.2.10.3, Intentional Destructive Acts, of the *CMRR-NF SEIS* for a discussion of the appendix.

181-7 As stated in Chapter 1, Section 1.7, of the *Draft CMRR-NF SEIS*, although scoping is optional for an SEIS under DOE's NEPA implementing procedures (10 CFR 1021.314(d)), public citizens, civic leaders, and other interested parties were invited to comment on these issues and to suggest additional issues that should be considered in the *CMRR-NF SEIS*. NNSA considered all scoping comments in the preparation of the *CMRR-NF SEIS.* Issues found to be relevant to the SEIS are addressed in the appropriate chapters or appendices of the *CMRR-NF SEIS*.

The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. As stated in Chapter 1, Section 1.1, of the *CMRR-NF SEIS*, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. The purpose and need for NNSA action, as stated in Section 1.3 of the *CMRR-NF SEIS*, has not changed since the issuance of the 2003 *CMRR EIS*; that is, to provide the physical means for accommodating the continuation of mission-critical analytical chemistry and materials characterization, and plutonium research capabilities at LANL beyond the present time in a safe, secure and environmentally sound manner. NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644).

Regarding the comment on the analysis concerning risks associated with terrorist attacks at the new facility, please see the response to Comment 181-6. Regarding the impact on the Nation's nonproliferation treaty obligations, please see Section 2.9, Treaty Compliance, of this CRD.

Commentor No. 182: Eleanor Krebs

From: Eleanor Krebs [elena_475@hotmail.com]
Sent: Tuesday, June 28, 2011 2:51 PM
To: nepalaso@doeal.gov
Subject: Nuclear threat from CMRR project near faultline in New Mexico

182-1 I am very upset about the chemistry and metallurgy project where you will build plutnium pits. This represents a grave nuclear threat to the United States as you can see from the forest fires which made it necessary to evacuate Los Alamos this week. There is also a nearby fault line which could cause a fukushima like catastrophe.

182-2 Another aspect to be considered is the enormous expense. Originally the cost was supposed to be $400-550 million back in 2004 with completion by 1011. I understand the cost is now estimated at 5.86 billion with a completion date of 2023. With our infrastructure falling apart and our schools losing teachers and our children doing without adequate care andcitizens on Long Island and other areas of the country losing their homes and going without enough food, we can not afford these billions for plutonium pits.

Eleanor Krebs, 25 Cheryl Lane North, Farmingdale, New York 11735

182-1 NNSA notes the commentor's concern regarding the CMRR-NF project. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

182-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 183: Sylvan Grey

From: Sylvan Grey [lenrivers@hotmail.com]
Sent: Tuesday, June 28, 2011 9:18 PM
To: John Tegtmeier
Cc: Sylvan Grey
Subject: CMRR-NF SEIS Comments

june 28, 2011

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

NO NUCLEAR EXPANSION.

NO MORE NUCLEAR WEAPONS DEVELOPMENT OR TESTING.

TRANSITION TO SUSTAINABLE TECHNOLOGIES AND LIFE-PROMOTING TECHNOLOGIES. PROTECT WILDLIFE AND HUMAN LIFE. THIS IS LONG OVERDUE. ***183-1***

Sylvan Grey
Portland, OR 97206

183-1 NNSA notes the commentor's opposition to nuclear weapons development or testing. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, conservation or sustainability) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 184: Uomi S. Brog

From: Uomi Brog [uomibrog@gmail.com]
Sent: Wednesday, June 29, 2011 3:07 PM
To: nepalaso@doeal.gov
Subject: Opposition to new nuclear weapons facility and power

As a voting citizen who carees about the next generation of Americans, I feel obligated to voice my discontent in the continued development of nuclear power, for energy or war fare. The CMRR Nuclear Facility proposed at Los Alamos Laboratory is wrong, dangerous and unsustainable in so many ways. ***184-1***

I abhor the manufacturing of plutonium pits, they are dangerous and a threat to the environment and our health and safety. Plutonium is a very potent carcinogen. I am afraiid that Los Alamos Lab's discharges affect disproportionately Native peoples and Hispanic New Mexicans. ***184-2***

I strongly believe that nuclear weapons are obsolete. They are useless against a terrorist attack. Building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material.

I applaud Germany in it's measures to abolish nuclear power in favor of more sustainable green energy measures in response to the meltdown of the Japanese plants.

I believe it is high time that we reverse our course and reach seriously for sustainable means of energy production and replace war fare with fair economic development support in critical countries. ***184-1 cont'd***

Sincerely,

Uomi S. Brog

Uomi Brog
132 Romero Street #2

Santa Fe, NM 87501

184-1 NNSA notes the commentor's opposition to the proposed CMRR-NF and nuclear power. Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

184-2 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, foreign aid and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 185: Daniel Gibson

From: nepalaso@doeal.gov on behalf of Dan Gibson [dbgibson@newmexico.com]
Sent: Tuesday, June 28, 2011 6:50 PM
To: nepalaso@doeal.gov
Subject: CMRR SEIS Comments
Attachments: CMRR LANL SEIS Comments 6-11.doc

See attachment or read below....

June 28, 2011

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager
USDOE/ NNSA
Los Alamos Site Office
3747 West Jemez Rd.
Los Alamos, NM 87544

I was born and raised in New Mexico and have lived in Santa Fe for more than 25 years.

I am writing today to register my opposition to the proposed construction of the new CMRR. At any point, it would be a colossal waste of taxpayer money. But considering we "won" the cold war and have no active nuclear-armed enemies, the horrible state of the U.S. economy, and the fact we have a viable nuclear arsenal that can continue to serve as a deterrent into the distant future, the CMRR is a monstrous waste of money, time and resources. *185-1*

And, in light of the fact that wildfires are now licking around the edges of LANL (and have burned through canyons where nuclear and chemical wastes were heedlessly dumped for decades--god knows what is in that smoke column!), to build a facility that will continue to generate waste, and to place plutonium and other dangerous materials in harms way, it seems insane to be discussing the need for a $4-$6 BILLION facility for building yet more nuc warheads that will never be used. The SEIS assessment of the fire danger to LANL and the CMRR is woefully inadequate. *185-2*

The no-action option should have been made a part of this discussion so we can focus a discussion and on LANL research that could truly generate lots of jobs while addressing urgent local, national and global problems. The world has changed. Our institutions must change as well. *185-3*

Sincerely,

Daniel Gibson
518 Juniper Drive
Santa Fe, NM 87501

185-1 NNSA notes the commentor's opposition to the construction of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

185-2 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

185-3 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

Commentor No. 186: Katherine M. Fuchs, Program Director
Alliance for Nuclear Accountability

From: katherine fuchs [kfuchs@ananuclear.org]
Sent: Tuesday, June 28, 2011 3:12 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF SEIS Comment

Alliance for Nuclear Accountability
322 4th St., NE
Washington, DC 20002

June 28, 2011

John Tegtmeier
CMRR-NF SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA–3 Building1410
Los Alamos, New Mexico, 87544

Mr. Tegtmeier:

I am writing to comment on the Department of Energy's Supplemental Environmental Impact Statement (SEIS) for the Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF). The SEIS currently being undertaken is not adequate. We do not presently have enough information about the seismology around the CMRR-NF site to credibly design safety features and the alternatives laid out in the SEIS also raise critical policy and budget concerns.

If the CMRR-NF project is to move forward, it requires a completely new Environmental Impact Statement (EIS), not an SEIS. The original 2004 EIS was based on a radically different CMRR-NF design. Current plans are for a CMRR-NF 50% larger than the one outlined in the 2004 EIS and must take dramatic new seismic information into account. Both of these design changes significantly affect the environmental impact of the project and merit a completely new EIS. ***186-1***

While we have learned a great deal about the seismology of the Los Alamos area since the original CMRR-NF EIS in 2004, seismic data is still being gathered and analyzed for the area. Blazing ahead before we have complete seismic data for the CMRR-NF site will only result in the need for another SEIS down the road. It would be reckless to continue investing tax-payer dollars in an EIS process that we know will need to be repeated and even more reckless to begin construction before we have complete seismic and environmental data. ***186-2***

186-1 NNSA notes the commentor's concerns regarding the adequacy of the building design and several aspects of the NEPA process. NNSA considers NEPA implementation to be a vital and important part of its decisionmaking process. The *CMRR-NF SEIS* specifically addresses changes, including increased footprint, in the design of the CMRR-NF based on additional seismic information and safety requirements. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare an SEIS when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Refer to Section 2.2, NEPA Process, of this CRD for more information.

186-2 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This additional information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a sizable earthquake event without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There are no new seismic analyses under way at LANL, however seismic studies are conducted on a continuing basis. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 186 (cont'd): Katherine M. Fuchs, Program Director Alliance for Nuclear Accountability

A proper CMRR-NF EIS should include a true "no action" alternative. In these austere times, as our President strives to reduce global nuclear weapons stockpiles, we must consider the possibility of not building the CMRR-NF. Our world does not need more plutonium pits and our country cannot afford to pay for this project. ***186-3***

Quadrupling our plutonium pit production capacity sends the wrong message to other countries. Whether we are negotiating bi-lateral arms reductions with Russia or trying to stave off an Iranian nuclear bomb, plans to increase our own weapons production capacity undercut our national nonproliferation goals. The U.S. continuing with the proposed CMRR-NF displays an aggressive and hypocritical posture to the rest of the world. ***186-4***

Finally, including a real "no action" alternative in the CMRR-NF would give the DOE a fiscally responsible option. While upgrades would have to be made to the current CMR facility to make it seismically sound and safe for workers, money could be saved when comparing such a "no action" alternative to the current $5.8 billion plan for the CMRR-NF. Our tax dollars would be better invested in real efforts to reduce DOE's footprint at Los Alamos National Laboratory, including the remediation of legacy waste. ***186-3 cont'd***

The civic and scientific communities represented by the Alliance for Nuclear Accountability agree that moving ahead with the CMRR-NF SEIS would be detrimental to our national interests. We cannot afford to invest in a facility built in a seismically unstable area that would produce unnecessary weapons components. We implore you to reconsider your plans for upgrading the CMR by initiating a new EIS that includes a "no action" alternative to bring the current facility up to safety standards. Thank you for your consideration. ***186-5***

Sincerely,

Katherine M. Fuchs
Program Director

186-3 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced Section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if

Commentor No. 186 (cont'd): Katherine M. Fuchs, Program Director
Alliance for Nuclear Accountability

necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

186-4 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

186-5 Comment noted.

Commentor No. 187: Donivan Porterfield

From: dporterfield@nnsa.net
Sent: Tuesday, June 28, 2011 6:36 PM
To: NEPALASO@doeal.gov
Cc: dporterfield@nnsa.net
Subject: public comment on CMRR–NF DSEIS DOE/EIS–0350–S1

Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR–NF DSEIS; DOE/EIS–0350–S1).

It is the purpose of this e-mail to provide my personal input on the alternatives presented in the above referenced Draft Supplemental Environmental Impact Statement.

Of the presented options I would prefer to see the NNSA proceed with the Modified CMRR-NF Alternative with a Deep Excavation Option. While there would be greater cost and time required for that option I think in the long run it would reduce continuing public concerns about the stability of the Nuclear Facility in the occurrence of an earth quake. It would also serve to reduce the above ground profile of the facility. In the execution of the Deep Excavation Option there would need to be great care taken not to adversely impact the structural integrity of the current PF-4 and new RLUOB facilities.

187-1

I believe the rate at which the NF is constructed should reflect both its important supporting role in a variety of national security programs and the overall national security interest in reducing our Federal budget deficit.

Until the CMRR NF is completed the NNSA should support the best integrated usage of the remaining portions of the current CMR, PF-4, and the new RLUOB facility to accomplish the entire range of national security and other programs. Relatively small continuing investments in the combination of those three facilities could allow much beneficial work to be done in the interim period until the NF is completed and operational.

Thank you for the opportunity to provide my public comments to this supplemental plan. As well the continuing public outreach effort in behalf of the overall CMRR effort is also appreciated.

Mr. Donivan Porterfield
PO Box 1417
Los Alamos, NM 87544

187-1 NNSA notes the commentor's support of the construction of the CMRR-NF as a component of our national security program. Site-specific geotechnical investigations have been completed for the proposed CMRR-NF project site for both the Shallow Excavation Option and the Deep Excavation Option. Either option of the proposed CMRR-NF would be designed and constructed in accordance with recommendations provided in the geotechnical reports (Kleinfelder 2007a, 2007b, 2010a, 2010b) and care would be taken to ensure that nothing was done that would adversely impact the structural integrity of RLUOB or the TA-55 Plutonium Facility.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information. Excavation activities would not impact PF-4 nor RLUOB.

Commentor No. 188: Mimi Darragh

From: MimiDarragh@aol.com
Sent: Tuesday, June 28, 2011 6:07 PM
To: NEPALASO@doeal.gov
Subject: "Supplemental Environmental Impact Statement" comment

To Whom it May Concern:

There are many reasons to be concerned about the seismic design under review, but as a citizen of this country and the world I am against nuclear weapons of any kind and the research and development of them as well. The ability to kill and maim massive numbers of people, even the threat of this type of killing, is immoral and does not fit anywhere in the just war criteria. ***188-1***

Sincerely,

Mimi Darragh
8018 Noblestown Rd.
McDonald, PA 15057

188-1 NNSA notes the commentor's opposition to the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 189: Aysha Massell

From: Aysha Massell [ayshamassell@gmail.com]
Sent: Wednesday, June 29, 2011 3:00 AM
To: John Tegtmeier
Cc: Aysha Massell
Subject: CMRR-NF SEIS Comments

6-28-11

Plutonium processing at Rocky Flats in Colorado has left the site dangerously polluted for many years. Don't ruin the beauty of Northern New Mexico and the lives of its inhabitants by processing plutonium pits.

The development of new nuclear weapons is illegal by international treaty, and continuing to poison our earth with radioactivity is immoral. *189-1*

Do not build this facility.

Aysha Massell
Oakland, Ca 94609

189-1 NNSA notes the commentor's opposition to the construction of the CMRR-NF and to the development of new nuclear weapons and processing of pits.
The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4 CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 190: Armin Wright

From: Armin Wright [aiaw@earthlink.net]
Sent: Wednesday, June 29, 2011 2:53 AM
To: John Tegtmeier
Cc: Armin Wright
Subject: CMRR-NF SEIS Comments

6/28/11

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

The U.S. does not need more plutonium pits. The U.S. does not need more sophisticated/more useable/more reliable nuclear weapons. The U.S. must get out of the business of threatening the world that it will blow the world up if it does not get its way. The U.S. must fulfill its obligation to eliminate nuclear weapons. ***190-1***

Do not build a bigger and better facility to produce ever more sophisticated nuclear weapons.

Armin Wright
MSME, UC Berkeley 1964

Armin Wright
Oakland, CA 94618

190-1 NNSA notes the commentor's opposition to more plutonium pits and the production of nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

Commentor No. 191: R. Jesse McLaren

From: R. Jesse McLaren [rjm831@gmail.com]
Sent: Monday, June 27, 2011 4:58 PM
To: nepalaso@doeal.gov
Subject: Opposition to CMRR

Sir:

I simply wish to add my voice to those opposed to the new CMRR project. I realize you are well aware of the objections -- costs, seismic issues, etc -- but want you to know that I feel this project should be canceled. *191-1*

Thank you for considering my opinion.

Sincerely,

R. Jesse McLaren
POB 3430
Santa Cruz, CA 95063

191-1 NNSA notes the commentor's opposition to the construction of the CMRR-NF. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 192: Bette McDevitt

From: Bette McDevitt [bettemcd@verizon.net]
Sent: Monday, June 27, 2011 5:22 PM
To: NEPALASO@doeal.gov
Subject: comment

We have more than enough nuclear plants, weapons, and contractors already, but not enough safe bridges, safe roads, good schools and health care facilities. Not another penny for weapons of death. *192-1*

Bette McDevitt

192-1 NNSA notes the commentor's opposition to the existence of nuclear plants and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. Funding decisions on Federal programs (for example, defense, education, and healthcare) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 193: Donald McNeill

From: Donald McNeill [oroszlan@verizon.net]
Sent: Monday, June 27, 2011 7:33 PM
To: NEPALASO@doeal.gov
Subject: Stop New Nuclear Weapons Plant

This proposal to build a new nuclear weapons plant is a poor way to move toward nuclear arms control and nonproliferation. If the leading power, the US, continues to develop, build, and threaten to use nuclear weapons, we have to expect that other countries will follow suit-- both the old nuclear powers and, especially, aspiring nuclear powers.

193-1 The US is obligated to proceed toward reduction and elimination of its own nuclear weapons by the nonproliferation treaty and other treaties. This plant is counter to the promises made by the US in signing and ratifying those treaties. Building new nuclear weapons (when there is no serious nuclear threat) is a dangerously contradictory way to get new START treaty ratified and shows that this administration has no intention of reducing its addiction to nuclear weapons. It shows this not only to me, but also to the world.

Donald McNeill
PA 15213

193-1 NNSA notes the commentor's opposition to the construction of the CMRR-NF and concern about treaty compliance. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 194: Ron Stock

From: Ron Stock [stockontheroad@yahoo.com]
Sent: Monday, June 27, 2011 6:09 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF

It is 3:50 p.m. on Monday afternoon, June, 27th. I just stepped outside my front door and sucked in the pungent smell of the Las Conchas fire in Los Alamos, New Mexico. It is not hard for me to imagine those fumes, maybe sooner than I think, might some day be carrying dangerously high levels of radiation. That is why I am violently opposed to the construction of the Chemistry and Metallurgy Research Replacement - Nuclear Facility in Los Alamos.

You folks put twenty pounds of Plutonium into the Nagasaki bomb and now you want to bring six point six metric tons of this highly toxic substance to Los Alamos. What in the world are you folks thinking? I believe I know, and am asking you to stop thinking about your own personal financial security and start thinking about how many lives you could be impacting in an unhealthy negative way should an earthquake or fire disrupt your not very secure and efficient plans. Think solar, think wind, think what future generations will inherit if at some point you don't come to your senses and stop this "Us Against Them Dick Cheney type paranoid nuclear weapons madness."

194-1

Ron Stock, Resident of Taos New mexico

194-1 NNSA recognizes the commentor's opposition to the construction of the CMRR-NF. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 195: Luciana Vigil-Holterman

From: Luciana Vigil-Holterman [vigilholterman@gmail.com]
Sent: Monday, June 27, 2011 5:24 PM
To: NEPALASO@doeal.gov
Subject: Comments on the Draft Supplemental Environmental Impact Statement for the CMRR Nuclear Facility

I am writing to voice my support to replace an aging research building with a new facility that meets current standards for a nuclear facility. The current CMR facility needs a replacement that is safe, secure, and compliant. A facility that meets a category 3 structure is necessary for continued safe operations and to ensure the ability to address future issues that have yet to be identified.

I believe that the tax dollars that are used to design and build the CMRR nuclear facility should be used with spending efficiency in mind while meeting safety, compliance, and sustainability requirements for a nuclear facility. It should not be an unreasonable expectation that a replacement facility can finish design and be built in a timely manner while making sure that safety and environmental regulations are met. *195-1*

Thank you.

Luciana Vigil-Holterman
Española, New Mexico

195-1 NNSA notes the commentor's support of the construction of the CMRR-NF as a safe, secure, and compliant replacement for the existing CMR Building. NNSA understands the concerns regarding the schedule and cost of the proposed CMRR-NF project and is working hard to control schedule and cost while at the same time meeting its obligations regarding safety and environmental compliance.

Commentor No. 196: Jonathan Block

From: Jonathan Block [jblock41@gmail.com]
Sent: Monday, June 27, 2011 3:21 PM
To: NEPALASO@doeal.gov
Subject: Comments on the Draft SEIS for the CMRR project

DOE Must Withdraw the Draft Environmental Impact Statement for a Proposed Plutonium Facility at Los Alamos Because It Is Incomplete and Inaccurate

In 2003, pursuant to the National Environmental Policy Act (NEPA), the Department of Energy (DOE) completed an Environmental Impact Statement (EIS) for its proposed Chemistry and Metallurgy Research Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL) at Technical Area-55 (TA-55). Simply put, CMRR is a huge new plutonium facility that will enable expanded nuclear weapons production. Because of the recognition of greater seismic risks and a proposed 50% increase in size, DOE was compelled by citizen pressure to prepare a draft supplemental EIS, which it released last April 22.

The proposed CMRR Nuclear Facility (CMRR-NF) would be located next door to PF-4, LANL's existing production facility, and the two would be physically linked to each other via underground tunnel. The proposed NF would also have a vault to store up to six metric tons of plutonium, which will supply both it and PF-4. The proposed NF would be the keystone to an expanded plutonium complex at LANL capable of quadrupling the current production capability of 20 pits per year to up to 80.

Two of the Three Alternatives Provided in the Draft SEIS Are So Unworkable that They Cannot Really Be Considered Alternatives

The current "No Action" Alternative is to construct and operate a new CMRR-NF as analyzed in the 2003 CMRR EIS. But based on new information learned since 2004, the 2003 CMRR-NF would not meet seismic standards to safely conduct mission work. "Therefore, the 200[3] CMRR-NF would not be constructed". So this is not really an alternative.

The "Continued Use of Existing CMR Building" Alternative in this current EIS states: Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the existing CMR with normal maintenance and component replacements to sustain operations for as long as feasible. However the existing CMR is at the end of its life NOW. But this alternative does not completely satisfy DOE's stated purpose and need to carry out operations at a level to satisfy the entire range of DOE mission support functions. So this is not really an alternative, either.

196-1

196-1 Issues raised by the commentor are addressed in Section 2.2, NEPA Process, Section 2.3, Programmatic Direction and Decisions, and Section 2.4, CMR Mission, of this CRD. As discussed in Chapter 1, Section 1.5, of the *CMRR-NF SEIS*, NNSA is not planning to revisit either the need for the CMRR-NF or to relocate the CMR capabilities at another site. NNSA has addressed the CMRR-NF in a series of NEPA documents since the 2004 ROD for the *CMRR EIS* that announced its decision to locate a two-building CMRR Facility at TA-55. The *Complex Transformation SPEIS* (DOE 2008b), which addressed transforming the nuclear weapons complex into a smaller, more efficient enterprise, also addressed the location for manufacturing and research and development involving plutonium. In the ROD for that document, NNSA announced its decision that that mission would remain at LANL and its decision to construct and operate the CMRR Facility at LANL. Based on these decisions and the authorization for the project and appropriation of funding, NNSA intends to proceed with the CMRR-NF planning process.

The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare a supplement when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003. Another alternative addresses continuing to use the CMR Building, although its continued use would not fully meet NNSA's stated purpose and need.

Commentor No. 196 (cont'd): Jonathan Block

That leaves only the "Modified CMRR-NF" Alternative as the only alternative. Under the Modified CMRR-NF Alternative, which is DOE's Preferred Alternative, DOE would construct the new CMRR-NF at TA-55 with construction enhancements to address the seismic issues. Obviously, two of the three alternatives are unworkable, which stacks the deck in favor of the preferred alternative. Additional Alternatives Must Be Analyzed. **196-1 cont'd**

The Shallow Construction Option Is Not Mature and Must Not Be Considered As An Alternative Until Analysis of this Option Is Complete

The "Modified CMRR-NF" Alternative has two options – the "Deep" Option and the "Shallow" Option. All environmental impacts of the Shallow Option are based upon assumptions that are not defensible at this time. As this supplemental EIS itself states, "The Shallow Construction Option needs to be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis." Most of the environmental impacts proposed in this supplemental EIS for the Shallow Option end up being the same or similar to the Deep Option impacts. This is only speculation at this time. The Draft SEIS for the CMRR-NF fails to offer and analyze realistic alternatives. **196-2**

The Costs of Trying to Build a Plutonium Pit Factory in a Geologically Unstable Area Are Just Too High

LANL is located between a rift valley (the Rio Grande in that area) and an inactive supervolcano (the Jemez Mountains) in an active seismic fault zone (the Pajarito Plateau). An updated seismic hazards analysis was published in May 2007. It showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the over $3 billion in cost estimate increases since 2008 are due to efforts to address the increased seismic hazards. DOE must analyze whether $6 billion is too high of a premium in order to build a new NF at this location. **196-3**

Volcanic Eruption Impacts Must Be Analyzed

The Preliminary Volcanic Hazards Evaluation for Los Alamos National Laboratory Facilities and Operations Current State of Knowledge and Proposed Path Forward, September 2010 Report states, "The integration of available information on the volcanic history of the region surrounding [LANL] indicates that the Laboratory is at risk from volcanic hazards." **196-4**

Risks Due To Fire, Loss of Power, Water, and Cooling Must Be Analyzed

As of the submission date of these comments, a major wild fire has forced the evacuation areas around Los Alamos, voluntary evacuation of Los Alamos County, and closure of the Laboratory. This is the second major wild fire in less than a **196-5**

The alternative of distributing analytical chemistry, materials characterization, and plutonium research capabilities among multiple facilities at LANL was considered, but not analyzed as a reasonable alternative. Because of the quantities of special nuclear material involved, to fully perform the analytical chemistry, materials characterization, and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. RLUOB was not intended as a nuclear-qualified space to handle Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA would not operate RLUOB as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear materials that could be handled in the building. As a result, analytical chemistry and materials characterization operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic road closures and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls and requirements for this type of work. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

The need for the CMRR-NF is not connected to a specific level of operations. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As described in Chapter 1, Section 1.2, of the *CMRR-NF SEIS*, NNSA's ability to perform these capabilities has been curtailed because of safety restrictions at the existing CMR Building; some types of materials characterization work have been suspended because of these limitations.

Commentor No. 196 (cont'd): Jonathan Block

decade. There is no credible analysis in the CMRR for risks due to fire, loss of electrical power, loss of water, cooling and loss of elecronic, digital security systems (computer, electro-mechanical and others relying on external power sources). As global warming continues unabated, extreme weather conditions will continue and have an increasing frequency. The highly hazardous substances in the CMRR need to be secure. To the extent the operating systems of the CMRR rely upon any external power sources for health, safety and security, all conditions that could cause loss of power need to be fully analyzed--and the SEIS does not do the job. ***196-5 cont'd***

All Impacts of NF Construction on the State Consent Order Must Be Analyzed

Cleanup of the existing mess must be the priority – not the proposed NF. DOE made a commitment to cleanup the legacy waste sites at LANL when it signed the Consent Order with the New Mexico Environment Department on March 1, 2005. The Order requires cleanup of certain sites by December 31, 2015. The analysis of the impacts of construction activities for the proposed NF must include those for the cleanup activities; including those at the nearby chemical dump, Material Disposal Area C. Precious taxpayer funds must be used to meet the cleanup obligations, not to build a shiny, new CMRR-NF. ***196-6***

The Draft CMRR-Nuclear Facility SEIS Is Deficient In All The Aforementioned Respects and Must Be Withdrawn.

196-2 The concerns expressed by the commentor about the Shallow Excavation Option not being a mature alternative appear to refer to statements in Chapter 1 and Chapter 2, Section 2.6.2.1, of the *Draft CMRR-NF SEIS* indicating that there was more uncertainty in the design of the Shallow Excavation Option because that design had not reached the same level of maturity as the Deep Excavation Option. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b). The Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

196-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet

Commentor No. 196 (cont'd): Jonathan Block

(1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

196-4 NNSA agrees that volcanic eruption impacts should be analyzed and has made revisions. In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapter 3 and 4 (Sections 3.5 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). Based on the report, future planning would be performed to consider CMRR-NF structural requirements for ash-loading.

196-5 Nuclear facilities at LANL undergo an extensive safety evaluation and approval process that ensures that they can be operated safely. This process is mandated by Federal Law. The details of the process are also codified and ensure that accident planning includes planning for common events, such as loss of offsite power and resources such as water, and rare events, including severe seismic and other natural phenomena, rare external events including aircraft crashes, and rare operational accidents. Unlike nuclear power plants, the CMRR-NF does not require offsite power and continuous cooling water to protect against major accidents. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

196-6 NNSA does not consider compliance with the Consent Order optional and is not linking Consent Order compliance with decisions about constructing and operating the proposed CMRR-NF. NNSA intends to continue conducting the environmental restoration program at LANL regardless of whether it decides to construct and operate the proposed CMRR-NF as analyzed in the *CMRR-NF SEIS*. Closure of Material Disposal Area C will take place consistent with the Consent Order process, in accordance with decisions reached by NMED. Cleanup activities are not part of the scope of the *CMRR-NF SEIS* and are not analyzed. Cleanup activities are addressed in the 2008 *LANL SWEIS* (DOE 2008a).

Commentor No. 197: LeRoy Moore, Ph.D.
Rocky Mountain Peace and Justice Center

From: LeRoy Moore [leroymoore@earthlink.net]
Sent: Monday, June 27, 2011 3:09 PM
To: nepalaso@doeal.gov
Subject: CMRR Supplemental EIS: ADDITIONAL COMMENT

HELLO:

On Friday, June 24, 2011, I sent the comment below. Today I wish to add the following:

The fire issue: Los Alamos is already shown to be vulnerable from the seismic standpoint, more vulnerable than the SEIS takes account of. Likewise, it is obvious that the SEIS pays inadequate attention to the crucial issue for fire danger. The present Las Conchas fire is as of this writing rapidly advancing toward the LANL site at a rate much faster than the Cerro Grande fire of 2000. Given the condition of high, dry forest lands in the context os global warming, the present SEIS should be set aside and redone with close attention not only to the neglected seismic issue but also to the possibility of a disastrous fire that will have effects little understood on the proposed CMRR project. This comment urges NNSA to take the way of caution rather than careless disregard on this matter. ***197-1***

Sent on June 27, 2011, as a supplement to my June 24, 2011, comment.

LeRoy Moore

International law: At a time when the USA and other countries have committed to ending nuclear weapons proliferation by reducing and then eliminating nuclear weapons, in keeping with our obligations under Article VI of the Nuclear Nonproliferation Treaty, the proposed Chemistry and Metallurgy Research Replacement project at Los Alamos is not needed. This, a genuine No Action Alternative, needs to be the preferred alternative considered in the supplemental CMRR EIS. ***197-2***

Non-need for more plutonium pits: The intent of this facility is to make it possible for LANL to increase production of plutonium pits for nuclear warheads from the present LANL capacity of about 20 per year to 80 per year, a capacity not needed. The proposed facility promises continuation of the terror of the nuclear threat, implicitly encouraging other countries to obtain nuclear arsenals. Needed instead is a program designed to bring the US and NNSA into conformity with international law as codified in Article VI of the Nuclear Nonproliferation Treaty.

The seismic issue: The Draft SEIS is does not provide an adequate analysis of the seismic conditions at LANL. It thus is premature and should be withdrawn and redone only after seismic risks have been fully documented. ***197-3***

197-1 NNSA recognizes the commenter's concerns regarding the potential for wildfires in addition to seismicity issues. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS,* forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF (see the response to comment 197-3 regarding seismicity). Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

197-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The United States is not in violation of the Treaty on the Non-Proliferation of Nuclear Weapons or any other nonproliferation treaty to which it is a signatory. Along with its obligations to reduce its nuclear weapons stockpile and promote the nonproliferation of nuclear weapons to nonnuclear states, the United States must also ensure that its nuclear weapons stockpile remains safe, secure, and reliable. Chapter 1, Section 1.2, of the *CMRR-NF SEIS* outlines some of the steps taken to meet this objective, including the formation of NNSA.

Commentor No. 197 (cont'd): LeRoy Moore, Ph.D.
Rocky Mountain Peace and Justice Center

Cleanup: Funds should be devoted to cleanup of the Los Alamos site rather than to construction that will only increase problems in an area already contaminated. Not only will the construction redistribute contaminated soil, but increasing plutonium processing at LANL will increase contamination with plutonium, a long-lived highly toxic material. *197-4*

Cost: Projected costs for enhanced plutonium pit production activities at LANL have increased from about a $600 million estimate in 2004 to the current amount of $5.8 billion. The project should be abandoned on the basis of cost alone. Present facilities should be upgraded to provide better seismic stability and worker protection. Further, it is unwise to invest such sums in nuclear weapons, which can never be used. *197-5*

****

LeRoy Moore, Ph.D.
Rocky Mountain Peace and Justice Center
P. O. Box 1156, Boulder, Colorado 80306-1156 USA
E-mail address: leroymoore@earthlink.net

Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and not proceed with the CMRR-NF, or would abandon pit production at LANL, such an alternative does not meet NNSA's stated purpose and need (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). Thus, an alternative of ceasing CMR operations is not addressed in the *CMRR-NF SEIS*. The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003.

197-3 Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

197-4 In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design, construction, and operation of the CMRR-NF. Chapter 4,

Commentor No. 197 (cont'd): LeRoy Moore, Ph.D.
Rocky Mountain Peace and Justice Center

Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

197-5 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 198: Carl deVecchis

From: Carl deVecchis [carl_devecchis@yahoo.com]
Sent: Monday, June 27, 2011 1:01 PM
To: NEPALASO@doeal.gov
Subject: Cut Nuclear Weapons Production Not Medicare

Dear Department of Energy,

We don't need to waste $6 Billion to construct a plutonium reprocessing and storage facility in New Mexico. Please, redirect the funds to infrastructure repairs or just reduce the deficit. *198-1*

Thank you,

Carl deVecchis
Registered Voter and US Citizen from Lynbrook, NY

Carl deVecchis
34 Yale Place
Lynbrook, NY 11563

198-1 NNSA notes the commentor's opposition to the construction of the CMRR-NF due to its cost. Funding decisions on Federal programs (for example, infrastructure repairs) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 199: Jane Steinfels Hussain

From: janehussain2@aol.com
Sent: Monday, June 27, 2011 1:29 PM
To: NEPALASO@doeal.gov
Subject: EIS on Los Alamos Project

This project must go back to the drawing board! We cannot afford 1) the environmental risk given the geological data recently acquired and the lessons of Fukushima, 2) the financial drain given the imperative to draw down our deficit or 3) the military risk of encouraging arms proliferation throughout the world while we're preaching nonproliferation. *199-1*

Please reconsider this whole project in light of current knowledge and conditions.

Thank you,

Jane Steinfels Hussain
2115 Pontotoc Ave.
Nashville, TN 37206

199-1 NNSA recognizes the commentor's opposition to the construction of the CMRR-NF due to concerns regarding seismic vulnerabilities and opposition to nuclear war.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Funding decisions on Federal programs (for example, defense spending) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 200: John J. Metz

From: John Metz [METZ@nku.edu]
Sent: Monday, June 27, 2011 2:55 PM
To: NEPALASO@doeal.gov
Subject: Plutonium Factory at Los Alamos

Dear NEPALSO,

I am writing to express my dismay that LANL and DOE are merely offering a Supplementary EIS regarding the construction of the Nuclear Facility at Los Alamos. There are several points I need to make.

1. The recent nuclear catastrophe in Japan illustrates painfully how underestimating the threat of violent seismic events can be lead to disaster. The revised estimate of the seismic threat at Los Alamos demands that the entire project be much more thoroughly vetted than a mere Supplement EIS can do. Given the previous releases of plutonium from LANL, the lab cannot allow any additional releases. Of course, that is not possible – there will be some tiny amounts of Pu released in the best of circumstances, but we can't have large releases, which could occur with a severe earthquake. Working with plutonium is always extremely dangerous. ***200-1***

2. We don't need new pits – the existing pits are able to sustain our weapon arsenal for the foreseeable future. ***200-2***

3. Cost is excessive. In this time of grave concern over the nation's deficit, this is money we do not need to spend. The current estimates of the cost of the construction exceed the original 6 or 7 fold, and that is with the minimal construction changes proposed in the SEIS. ***200-3***

4. The new plant is scheduled to produce 80 pits per year, while the existing facility makes 20. We don't need more than 20 new ones per year. In fact, we don't need 20. ***200-2 cont'd***

5. The Non-proliferation Treaty article 6 commits the US to eliminating nuclear weapons. We have largely ignored that and it becomes a reason for other rogue nations to move toward weapons and for the non-nuclear signers to abandon the treaty. We cannot maintain the facade of moving toward Article 6 while building this facility. ***200-4***

200-1 NNSA notes the commentor's concerns regarding the seismic design of the CMRR-NF.

The commentor's concerns that an accident (similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant) could happen at LANL is addressed in Section 2.8, Nuclear Accidents, of this CRD. There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant or Chernobyl) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 200 (cont'd): John J. Metz

Thank you,

Sincerely,

John J. Metz
Geography Coordinator
448 Landrum
Northern Kentucky University
xxx.xxx.xxxx
metz@nku.edu

200-2 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Please refer to Section 2.4, CMR Mission, of this CRD for more information.

200-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

200-4 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 201: Jean Nichols

From: Jean Nichols [artstudio@kitcarson.net]
Sent: Monday, June 27, 2011 3:16 PM
To: nepalaso@doeal.gov
Subject: Opposition to LANL's new nuclear facility

I was just recently told about your new plutonium facility at the Los Alamos National Laboratory. As a citizen who is concerned with nuclear proliferation and national security, here are a number of reasons why I am concerned:

Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth.

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. Cancer rates are elevated due to normal emissions. In 2000 the Cerroi Grande Fire caused widespread contamination. Dust from my house tested too high with Strontium 90. This year I got cancer myself. Now we have a wild fire burning that could dwarf the Cerro Grande. Los Alamos has dry forests on three sides. It is insane to do nuclear production at this facility. And all the waste already there needs to be removed. This should be a matter of national security, and needs to be done before an EIS is considered.

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is also underway at Los Alamos Lab and the results will impact the design of the building. And we have yet to see what this fire brings us...all of northern NM may need to evacuate, but of course indigenous and poor farmers and families won't. It is an abomination that we bear this local threat from our own government facility. War is obsolete. We need all our resources focused on climate change and the catasphrophe's that are here and coming. It should immediately begin switching its mission to green projects.

201-1

Jean Nichols
PO Box 237
Peñasco, NM 87553

201-1 NNSA notes the commentor's concerns about the CMRR-NF project. NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. See Section 2.7, Economic Impacts, of this CRD for information on the economic impacts as evaluated in the *CMRR-NF SEIS*.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. As noted in Chapter 4, Section 4.6.1.3, of the 2008 *LANL SWEIS* (DOE 2008a), an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are

Commentor No. 201 (cont'd): Jean Nichols

constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 202: Alice Baker

From: Alice Baker [albakerihm@aol.com]
Sent: Monday, June 27, 2011 3:17 PM
To: nepalaso@doeal.gov
Subject: No New Nuclear Plants Needed

The new development at the Los Alamos National Laboratory for plutonium pits is not in the best interest of our country. As a voting citizen, I feel as though there are a number of reasons to not complete this facility.

Nuclear weapons are a threat to our peace. There do not give us security in any form, but rather escalate the proliferation throughout the world. The United States MUST take a lead in ending this madness. *202-1*

You have a responsibility to cleanup our environment not make it more toxic. "Take no action" as one of the alternatives to the CMRR project. *202-2*

I do not support the building of any new nuclear plants in Los Alamos, NM and Oak Ridge, TN

Alice Baker
20811 Littlestone Apt. 5
Harper Woods, MI 48225

202-1 NNSA notes the commentor's opposition to nuclear weapons. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

202-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 203: Jim Ullrich

From: Jim Ullrich [ullrichjim@ntown.net]
Sent: Monday, June 27, 2011 3:35 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF SEIS

What should be included in the CMRR-NF SEIS are the new political, economic, social, and national security realities that show a new plant is not required. Alternative solutions like upgrading existing facilities should be included in this review. ***203-1***

Jim Ullrich
551 English Village Way
Apt 917
Knoxville, TN 37919

203-1 NNSA notes the commentor's opposition to the CMRR-NF project. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Commentor No. 204: Jay Coghlan, Executive Director
Nuclear Watch New Mexico

nuclear watch new mexico

July 5, 2011

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico, 87544
By e-mail to NEPALASO@doeal.gov

Nuclear Watch New Mexico (NWNM) respectfully submits these comments on the draft *Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory (LANL), Los Alamos, New Mexico* (hereinafter "CMRR-NF dSEIS").

We regret that we were not able to submit our comments by the NNSA specified due date of June 28. We did however inform you of that fact on that day. Our delay was caused by *force majeur*, that is the breakout of the Las Conchas Fire on the afternoon of Sunday June 26 threatened LANL and the Los Alamos townsite. We were continuing to write our comments at that time, but from that point were not able to do so until the following Thursday. We were working overtime because of the need to monitor the fire and respond to numerous inquiries from the public and media through phone, e-mail, TV our blog and web site and Skype.

204-1 The National Nuclear Security Administration (NNSA) has stated that it will accept CMRR-NF dSEIS comments "to the extent practicable" after the deadline. We believe that we have certainly met the bar of "practicability" given the circumstances. We would appreciate their serious consideration by NNSA. We look forward to the agency's withdrawal of this draft for the reasons stated here, and look forward to further comment once NNSA puts out a serious draft without an un-predetermined outcome.

About us: Through comprehensive research, public education and effective citizen action, **Nuclear Watch New Mexico** seeks to promote safety and environmental protection at regional nuclear facilities; mission diversification away from nuclear weapons programs; greater accountability and cleanup in the nation-wide nuclear weapons complex; and consistent U.S. leadership toward a world free of nuclear weapons.

We work on current budget, environmental, and operational issues of nuclear weapons facilities, primarily the Los Alamos National Laboratory (LANL). We have publicly and vocally pressed the Lab to finally change its mission away from nuclear weapons programs and move more toward critically needed programs, such as nonproliferation efforts, other new national security priorities (for example, port security), and pure

204-1 All comments on the *Draft CMRR-NF SEIS* submitted to NNSA during the public comment period, as well as late comments, were considered in preparing this *Final CMRR-NF SEIS*.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

science and energy efficiency programs. Through detailed budget analyses, we hope to demonstrate that LANL can move towards these real national security issues and still contribute to the economy of northern New Mexico.

We appreciate public involvement in the NEPA process. We also support safe, monitored storage of radioactive wastes as a matter of national security and environmental protection. However, these should not be interpreted as support for more nuclear weapons, pit production, nuclear power, or the generation of more nuclear wastes. In our view, the best way to deal with the environmental impacts of nuclear waste is to not produce it to begin with.

204-1 cont'd

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Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

Our overall recommendation: The hastily prepared draft Supplemental EIS is incomplete, inadequate and should be withdrawn until a more thorough Supplement or a completely new EIS can be prepared. *204-2*

204-2 Comment noted. Responses to specific comments follow.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

Estimated CMRR costs are out of control

Graph by NukeWatch NM; budget figures from annual NNSA Congressional Budget Requests

The Nuclear Facility is the keystone to an expanded plutonium pit production complex.

The Chemistry and Metallurgy Research Replacement Project-Nuclear Facility is no mere "replacement." First of all, the CMRR Project will be larger than the old CMR Building that it is "replacing," contrary to legislation requiring no net increase.

LANL and NNSA have repeatedly claimed that the Nuclear Facility is not a plutonium pit production plant and the dSEIS itself states, "Pit production does not take place at the CMR Building and would not take place in the CMRR-NF." *(dSEIS section 2.4, p .2-6)* That is narrowly correct but nevertheless disingenuous. The Nuclear Facility will provide crucial "materials characterization" (MC) and "analytical chemistry" (AC) [1] in direct support of plutonium pit production, and will be the keystone to an expanded production complex at LANL's Technical Area-55. The Nuclear Facility will be located next door to PF-4, LANL's existing production facility, and the two will be physically linked to each other via underground tunnel. The Nuclear Facility will also have a vault to store up to six metric tons of plutonium, which will supply both it and PF-4. The Senate Armed Services Committee itself has noted that "CMRR will be a category I [the highest security level of "special nuclear materials"] facility supporting pit operations in building PF–4." [2]

204-3

[1] The dSEIS defines analytical chemistry as "the branch of chemistry that deals with the separation, identification, and determination of the components of a sample." It defines materials characterization as "the measurement of basic material properties, and the change in those properties as a function of temperature, pressure, or other factors."

[2] Senate Report 111-201 - NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2011, p. 274, http://www.gpo.gov/fdsys/pkg/CRPT-111srpt201/pdf/CRPT-111srpt201.pdf

204-3 As stated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS,* NNSA needs to act to provide the physical means for accommodating the continuation of mission-critical analytical chemistry and materials characterization capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner. NNSA's capability to perform a full range of analytical chemistry and materials characterization functions is currently constrained because of safety restrictions at the existing CMR Building; some types of materials characterization work have been suspended because of these limitations. Concurrently, NNSA proposes to take advantage of the opportunity to consolidate analytical chemistry and materials characterization activities for the purpose of increasing operational efficiency and enhancing security. The increased size of the CMRR Project, specifically the CMRR-NF, is due to the space required to meet current seismic and nuclear safety requirements; despite the increased size, the CMRR Project would replace the capabilities of the CMR Building. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The commentor states that NNSA officials have said that the CMRR-NF is to be built with 22,500 square feet "of plutonium processing space;" to clarify, this is laboratory space, not a production line as implied by the term "processing." The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. The Summary was revised to indicate that the analytical chemistry and materials characterization is "in support of manufacturing, development, and surveillance of nuclear pits…"

The Modified CMRR-NF would be designated as a Hazard Category II and a Security Category I facility, as stated in Chapter 2, Section 2.6.2.1 of the *CMRR-NF SEIS*. These category designations are based on the amount of special nuclear material allowed to be present within the facility at any given time. In Chapter 1, Section 1.2, right before the statement that pit production does not occur in the CMR Building or the proposed CMRR-NF, the SEIS indicates that pit production takes place in the TA-55 Plutonium Facility.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

NNSA and LANL should amend this dSEIS and their supporting literature and media statements that claim it is not a pit production facility. Instead, the whole truth should be said that the Nuclear Facility is the keystone to an expanded plutonium pit production complex at LANL's Technical Area-55. *204-3 cont'd*

For ~six billion dollars the amount of jobs the Nuclear Facility creates is pathetic.
Local proponents of the CMRR-Nuclear Facility constantly point to the benefits of job creation. However, the dSEIS itself states the positive socioeconomic impacts of this new exorbitant facility are very limited.

Concerning construction jobs, "Peak direct (790 workers) plus indirect (450 workers) employment would represent less than 1 percent of the regional workforce and would have little socioeconomic effect." [3] The average number of construction jobs is 420 over nine years.[4]

Facility personnel would not change from existing levels, just their location, "Approximately 550 workers would be at the CMRR Facility (Modified CMRR-NF and RLUOB); they would come from the CMR Building and other facilities at LANL so the facility would not increase employment or change socioeconomic conditions in the region." [5] *204-4*

Nuclear Watch NM argues that far more jobs could be created through other efforts, and not through a ~$6 billion dollar plutonium investment that will lock in Los Alamos' future to the hopefully shrinking business of nuclear weapons research and production. In terms of new long-term jobs the Nuclear Facility offers none, and robs taxpayers' money from other programs that could do far, far more for job creation.

NEPA requirements.

What is clearly at issue in this CMRR-NF SEIS process is what NNSA is legally obliged to consider in a "supplemental" environmental impact statement. The relevant DOE NEPA Implementation Regulation (which we note has the force of law) states

> (c) Agencies:
> Shall prepare supplements to either draft or final environmental impact statements if:
> (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
> (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.[6]

204-5

[3] dSEIS, p. S-39, parentheses in the original.
[4] Ibid., Table 2-1, Summary of CMRR-NF Construction Requirements, p. 2-15.
[5] Ibid., p. S-39, parentheses in the original.
[6] 10CFR1021 §1502.9 "Draft, final, and supplemental statements," http://ceq.hss.doe.gov/nepa/regs/ceq/1502.htm#1502.9

204-4 NNSA acknowledges the comment, but notes that the purpose of the proposed project is not the creation of jobs. The purpose of the proposed CMRR-NF is to provide analytical chemistry, materials characterization, and plutonium research capabilities in support of NNSA and LANL missions. The *CMRR-NF SEIS* presents the environmental impacts of construction and operation of the facility; one area of environmental impacts is socioeconomics, including jobs. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence.

204-5 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. As stated in Chapter 1, Section 1.5, NNSA of the *CMRR-NF SEIS*, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, made through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). See also the response to comments 204-7 and 204-8 for discussion of alternatives that were considered but dismissed from detailed analysis.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to CMRR-NF and Nuclear Weapons and Technology, of this CRD for more information.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

"Shall" means mean mandatory, not discretionary by the agency. "Or" means that a supplemental EIS shall be prepared in either case, with the *prima facie* demand that the necessary particulars be included in that supplement. While in this case both (i) and (ii) apply, NNSA admits only that it has substantially changed the Nuclear Facility project (and therefore wisely chose to prepare this SEIS). However, we argue that NNSA is legally obliged to embrace the other half of this equation, that consideration of significant new circumstances or relevant information is mandatory, and further that NNSA cannot cherry pick the significant new circumstances or relevant information that should be considered - - it has to consider <u>all</u> such worthy items.

This is further echoed by the Department of Energy (DOE) in its own 40 FAQs on NEPA compliance, as follows:

> 32. Supplements to Old EISs. Under what circumstances do old EISs have to be supplemented before taking action on a proposal?
> A. As a rule of thumb, if the proposal has not yet been implemented, or if the EIS concerns an ongoing program, EISs that are more than 5 years old should be carefully reexamined to determine if the criteria in Section 1502.9 compel preparation of an EIS supplement.
> If an agency has made a substantial change in a proposed action that is relevant to environmental concerns, or if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts, a supplemental EIS must be prepared for an old EIS so that the agency has the best possible information to make any necessary substantive changes in its decisions regarding the proposal. Section 1502.9(c).[7]
> Emphasis added.

204-5 cont'd

The 2003 CMRR EIS is more than seven years old, and there are major new circumstances and relevant information that the supplemental EIS <u>must</u> consider, instead of NNSA's arbitrary and capricious limitation of analysis to justify the Nuclear Facility's increased physical properties.

Some new and additional information and circumstance are the following:

- President Obama declared a future world free of nuclear weapons to be a long-term national security goal in his April 2009 Prague speech. At the same time he said that in the interim the U.S. nuclear weapons stockpile would be robustly maintained. The primary purpose of the CMRR-NF is to expand production capability of plutonium pits to up to 80 per year. [8] That is inconsistent with working toward and providing a good international example toward a nuclear weapons-free world.

- Nor is the CMRR-Nuclear Facility needed to maintain the stockpile. In 2004 Senator Bingaman, at NWNM's request, legislated a requirement that independent experts review

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[7] "NEPA's Forty Most Asked Questions," DOE, http://ceq.hss.doe.gov/nepa/regs/40/30-40.HTM

[8] For documentation see our Attachment 3, Additional Background on the CMRR-Nuclear Facility and Expanded Plutonium Pit Production.

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NNSA studies of plutonium pit lifetimes. In November 2006 that concluded that most pits last 85 years or more and that in any event mitigation measures were readily available.

• In large part as a result, Congress rejected Reliable Replacement Warheads and we maintain therefore the need for expanded plutonium pit production, hence the need for the CMRR-Nuclear Facility.

• Our nation has entered a severe and prolonged economic crisis that demands appropriate prioritization of federal taxpayers funds. The CMRR-Nuclear Facility is not clearly needed and currently has out-of-control costs. Its need should be reviewed afresh in a new draft SEIS that offers a true range of alternatives.

In our informal search for perhaps relevant NEPA case law concerning supplemental environmental impact statements we ran across the following filed by our close colleagues the Natural Resources Defense Council (NRDC):

> Plaintiffs moved for a preliminary injunction against a National Marine Fisheries Service (NMFS) regulation and a Letter of Authorization issued by NMFS to the Navy pursuant to the challenged regulation.
>
> The regulation and letter of authorization concerned the Navy's application for authorization for a five-year weapons testing program. The NMFS conducted an environmental assessment (EA). During the comment period, the NMFS received a comment that asserted that NMFS had an obligation to consider an alternative site for the testing. The final rule, when issued, was substantially the same as the proposal. It stated that NMFS had considered a very narrow range of alternatives and did not consider the possibility of testing outside the Outer Sea Test Range (OSTR), the area proposed by the Navy. Subsequently, the Navy issued its own EA which concluded that the testing would not have a significant environmental impact and that an EIS was not required, and which did contain some discussion of alternative sites both outside and within the OSTR. The NMFS later issued a Supplemental EA which also contained some discussion of alternative sites both outside and within the OSTR, and ultimately issued the Letter of Authorization.
>
> Plaintiffs alleged, in part, that defendants had violated NEPA by failing to consider alternative sites. The court found that promulgation of the Final Rule had been premised on an impermissible determination that alternatives outside the OSTR did not have to be considered. It also found that both the Letter of Authorization and the Navy's decision to proceed had relied upon a site-selection survey that had been conducted in an arbitrary and capricious manner and that **had excluded reasonable alternatives that met the requirements of the proposed action**. The court ruled that plaintiffs had demonstrated a strong likelihood of success on the merits and granted plaintiffs' motion for preliminary injunction.[9]

204-5 cont'd

[9] "Supreme Court Cases on NEPA," Natural Resources Defense Council v. U.S. Dept. of

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204-5 cont'd

A different case brought by NRDC established that NEPA imposes a duty on Federal agencies to take a "hard look" at their proposals.[10] Crucial to that is the range of alternatives that the agency considers.

204-6

DOE's own NEPA Implementation Regulations state:

> Alternatives including the proposed action
> **This section is the heart of the environmental impact statement.** Based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:
> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
> (b) Devote substantial treatment to estimated costs alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.
> (d) Include the alternative of no action.
> (e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
> (f) Include appropriate mitigation measures not already included in the proposed action or alternatives.[11] (Bolded emphasis added.)

We can't help but make a bad pun - - the NNSA is being "heartless" in this SEIS' analysis of alternatives. This document is dead without the beating pulse of a true range of alternatives.

204-7

This draft SEIS predetermines the outcome by not offering real alternatives. This dSEIS is deficient because the NNSA constrains the range of alternatives in order to predetermine its preferred, self-interested outcome. Other than its preferred alternative, the agency offers only two NEPA straw men that are clearly nonstarters, inevitably leading to their preemptive dismissal, thus leaving only the self-interested decision to build the Nuclear Facility. Is this financially out-of-control project really in the best interests of the Nation? There is no analysis and consideration of real alternatives, as required by the National Environmental Policy Act.

Navy, 857 F. Supp. 734 (C.D.Cal. Apr. 26, 1994), http://www.markdemuth.com/law_lib/nepa/HO02courtcases.pdf Emphasis added.

[10] Natural Resources Defense Council v. Morton, 458 F.2d 827, 838 (D.C. Cir., 1972

[11] 10CFR1021 Sec. 1502.14 "Alternatives including the proposed action," http://ceq.hss.doe.gov/nepa/regs/ceq/1502.htm#1502.9

204-6 NNSA agrees that the alternatives section is the heart of an EIS. Taken together, the alternatives section of the 2003 *CMRR-EIS* and this *CMRR-NF SEIS* is the "heart" and provides the range of reasonable alternatives.

204-7 The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on requirements related to additional seismic information. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare an SEIS when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding the alternatives to be addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, announced in the 2008 *Complex Transformation SPEIS* ROD. The No Action Alternative in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967). Another alternative addresses the option of continuing to use the CMR Building, although its continued use would not fully meet NNSA's needs.

Although it was listed as one of the alternatives in the Notice of Intent, after further consideration, NNSA eliminated the alternative to upgrade the CMR Building from further consideration. In the 2003 *CMRR EIS*, DOE considered the proposal to complete extensive upgrades to the existing CMR Building's structural and safety systems to meet current mission support requirements for another 20 to 30 years of operations and dismissed it from detailed analysis. Beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term structural viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive facility-wide upgrades originally planned for the CMR Building would be less technically feasible than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Structurally upgrading the entire structure to a significant extent would require

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Two of the three alternatives provided in the draft SEIS are false alternatives.

The current "No Action" Alternative is to construct and operate a new CMRR-NF as analyzed in the 2003 *CMRR EIS.* But based on new information learned since 2004, the 2003 CMRR-NF would not meet seismic standards to safely conduct mission work. "Therefore, the 200[3] CMRR-NF would not be constructed." ***So this is not really an alternative.***

The "Continued Use of Existing CMR Building" Alternative in this current dSEIS states:

> Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the existing CMR with normal maintenance and component replacements to sustain operations for as long as feasible. However the existing CMR is at the end of its life NOW. But this alternative does not completely satisfy DOE's stated purpose and need to carry out operations at a level to satisfy the entire range of DOE mission support functions.

So this is not really an alternative, either.

That leaves only the "Modified CMRR-NF" Alternative as the only alternative. Under the Modified CMRR-NF Alternative, which is DOE's Preferred Alternative, DOE would construct the new CMRR-NF at TA-55 with construction enhancements to address the seismic issues. ***Obviously, two of the three alternatives are non-starters, stacking the deck in favor of only the preferred alternative.***

Not only that, but NNSA eliminated without explanation the one credible and reasonable alternative that it did manage to think of, and even went so far as to announce in its October 1, 2010 Notice of Intent for the CMRR SEIS. As the NOI put it, this was "CMR Alternative 2: Same as CMR Alternative 1, but includes making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years."

This is a reasonable alternative to building the Nuclear Facility, that is continue to perform analytical chemistry, material characterization, and actinide research and development activities in the old CMR Building; and make facility upgrades to that building needed to sustain programmatic operations for another 20 to 30 years. Crucial to the validity of this alternative is an analysis of the impacts of all current and proposed projects to extend the life of the CMR, including roofing work, exhaust fans, HEPA filters, structural and safety systems, and elevator repairs.

The CMR Upgrade Alternative has particularly salience given its cost were offered in the 2003 EIS as the primary reason why it would not be considered. But given that CMRR estimated costs have exploded from $660 million in 2004 to ~$6 billion now it is eminently reasonable to believe that a business case should be undertaken for upgrading the old CMR Building while not building the Nuclear Facility. This has the added virtues of pushing back costs for decontaminating and demolishing the old CMR Building (which will be yet another considerable taxpayers expense). Moreover, the timeline of 20 – 30 years (say ending 2035) comports better with the declared national security goal of a

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204-7 cont'd

construction of new walls and other building components adjacent to the existing ones that have utilities and structural building features already in place. This work would have to occur while continuing uninterrupted operations in the CMR Building using nuclear materials and hazardous chemicals. The technical challenges of implementing extensive seismic upgrades to the entire CMR Building as discussed in the 2003 *CMRR EIS* remain. However, in response to public comments regarding upgrading the CMR Building, NNSA considered undertaking a more limited, yet intensive, set of upgrades to a single wing of the CMR Building, Wing 9, to meet current seismic design requirements so that this wing could be used for a limited set of Hazard Category 2 analytical chemistry and materials characterization operations. After careful consideration of the complex engineering and operational issues, as well as the CMR Building site's seismic concerns, this potential Wing 9 upgrade alternative was also determined not to be a reasonable alternative for meeting NNSA's purpose and need for action. NNSA also has considered the possibility of renovating, upgrading, and reusing other CMR Building wings and additional wing combinations to provide the space needed for continuing analytical chemistry and materials characterization work in the building and found that the other wings and wing combinations are not reasonable alternatives for providing adequate safe and secure space for future operations in a feasible, cost-effective manner and are not considered further in the *CMRR-NF SEIS*. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

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nuclear weapons-free world, in contrast to the CMRR's expected operational lifetime of half a century (2024 to 2074?). A new draft SEIS should include the CMR Upgrade Alternative, along with a supporting business case (as NNSA has done in a number of other NEPA processes).

It is somewhat of a tangent, but NNSA does offer two "options" for Nuclear Facility construction, i.e., Deep and Shallow Excavation (to be further discussed below). Key to the thread of our argument here is that these are just that, construction options, both of which obviously assume that the Nuclear Facility will be built, and hence are not true "alternatives" in the NEPA sense of the word (and to NNSA's credit it doesn't try to pass them off as alternatives). Given this and the fact that the so-called "No Action Alternative" to build the NF as planned in 2003 or continue to operate the old CMR Building without upgrades are both non-starters, there are no alternatives to NNSA's predetermination to build the Nuclear Facility.

204-7 cont'd

Nuclear Watch NM's preferred alternative, which we set forth in our CMRR dSEIS Scoping Comments, is to not build the Nuclear Facility; D&D the old CMR Building; and consolidate CMR missions in the new 185,000 square-feet Rad Lab and PF-4 (LANL's existing plutonium pit production facility). We believe this meets the test of being a reasonable alternative such that NNSA must analyze it. It is particularly reasonable given that, to repeat, the old CMR Building has two primary missions, which are the materials characterization and analytical chemistry of special nuclear materials. NNSA Administrator Tom D'Agostino wrote to the Defense Nuclear Facilities Safety Board that CMR materials characterization has already been relocated to PF-4. Thus, for this alternative to be realized, it becomes a matter of relocating CMR's other primary SNM mission, analytical chemistry, to PF-4.

That is made perhaps more possible by the pending closeout of two missions now being performed at PF-4, Mixed Oxide (MOX) fuel fabrication and the Advanced Recovery and Integrated Extraction System for dismantling pits and recovering plutonium, both of which were meant to be pilot demonstration projects for transfer to the Savannah River Site. But what is really needed, as we have argued for a few years now, is a "TA-55 Capabilities Study" that would evaluate missions needs in light of the fact that plutonium pit production capacity has not been expanded, and is uncertain to do so in the future. Obviously LANL has been operating under its currently approved level of 20 pits per year without the Nuclear Facility. Our proposed TA-55 Capabilities Study would analyze and recommend what is truly needed given broader national priorities (such as reducing the deficit), which a new CMRR dSEIS should incorporate.

One possible variant to our preferred alternative: The CMRR-NF is being designed with a vault for safe and secure storage of up to 6 metric tons of special nuclear materials (SNM). NNSA's claimed need for the Nuclear Facility should be de-linked from any possible need for a new SNM vault. NNSA should consider not building the Nuclear Facility while building a standalone vault. That vault could perhaps free up floor space at PF-4 (further obviating the need for the Nuclear Facility) and help de-inventory both it and the old CMR Building of materials at risk in a seismic event. Materials characterization and analytical chemistry could then be performed in PF-4 and the Rad Lab.

204-8

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204-8 In response to public comments like these, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* has been revised to describe in more detail the alternatives that NNSA considered but found would not meet the purpose and need for continuing CMR operations into the future. The alternative of distributing analytical chemistry and materials characterization capabilities among multiple facilities at LANL was considered, but not analyzed as a reasonable alternative. Because of the quantities of special nuclear material involved, to fully perform the analytical chemistry, materials characterization, and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. RLUOB was constructed as a radiological facility to handle gram amounts of nuclear material and not as a nuclear-qualified space to handle Hazard Category 2 or 3 levels (kilogram levels) of nuclear material. Thus, NNSA could not operate RLUOB as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear materials that could be handled in the building. As a result, analytical chemistry and materials characterization operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Thus, an alternative of constructing only a vault to accommodate the storage of plutonium would not meet the purpose and need of fully supporting plutonium mission work. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. The commentor asserts that the analytical chemistry mission has already been relocated to TA-55 Plutonium Facility, based on a statement in Chapter 2, Section 2.4.1 of the *CMRR-NF SEIS*. The statement has been revised for clarity. Whereas some amount of materials characterization is performed at the TA-55 Plutonium Facility, analytical chemistry is not. Analytical chemistry is performed at other locations at LANL, but mainly at the CMR Building. Use of other locations for the full CMR Mission analytical chemistry at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic road closures and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls and requirements for this type of work. Refer to Chapter 2, Section 2.7.3, of the *CMRR-NF SEIS*, for more information.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

The Draft SEIS for the CMRR-NF fails to offer and analyze realistic alternatives.
After careful reevaluation of NNSA's contemporary purpose and need for plutonium pit production, a new document should be prepared that analyses a broader set of alternatives for meeting that purpose. **To be a credible analysis the NNSA must develop a greater spectrum of reasonable alternatives.** As examples to assist NNSA, we list in bullet form in Attachment 2 various permutations of reasonable alternatives that a new dSEIS could and should consider, were NNSA to offer a genuine range of alternatives. ***204-7 cont'd***

We conclude that this CMRR-NF dSEIS does not meet legal NEPA requirements because of its failure to fully consider "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." Related, it also fails to offer a genuine range of alternatives. Regarding the latter, we now paraphrase "The Essentials of NEPA" by Wildlaw.org:[12] ***204-9***

> Under NEPA, an EA or EIS must include a review of the environmental impacts from all reasonable alternatives. It is the duty of the agency to develop and analyze the alternatives to the proposed action… However, the existence of only one reasonable alternative that the agency failed to look at will void the agency's decision…
>
> "The alternative section is 'the heart of the environmental impact statement,' 40 C.F.R. 1502.14; hence, '[t]he existence of a viable but unexamined alternative renders an environmental impact statement inadequate.' Citizens for a Better Henderson v. Hodel, 768 F. 2d 1051, 1057 (9th Cir. 1985). "As a result an agency must look at every reasonable alternative, with the range dictated by the 'nature and scope of the proposed action,' Block, 690 F.2d at 761, and 'sufficient to permit a reasoned choice.' Methow Valley Citizens Council v. Regional Forester, 833 F. 2d 810, 815 (9th Cir. 1987), rev'd on other grounds sub nom. Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989)."
>
> "NEPA requires an EIS provide information in detail and consider every reasonable alternative to a proposed action. Citizens for a Better Henderson, supra, 768 F.2d at 1057; see 42 U.S.C. 4332(2)(c)(iii).
>
> Defendants' position is contrary to NEPA's underlying tenet, i.e., that agencies consider all reasonable alternatives so as to ensure an EIS fosters informed decision making. See Idaho Conservation League v. Mumma, supra, 956 F.2d at 1519-20.
>
> "Accordingly, the EIS' failure to address an alternative… compels this court to REMAND this matter for further administrative proceedings." - End of excerpt -

[12] For fuller context please see Attachment 1 from http://www.wildlaw.org/Eco-Laws/nepa-txt.html in these comments.

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204-9 Comment noted. NNSA disagrees with the commentor's stated opinion regarding NNSA's failure to meet legal NEPA compliance requirements and the failure to sufficiently analyze a reasonable range of alternatives in NEPA documents pertaining to the proposed CMRR-NF project. Please see the response to Comment nos. 204-6 and 204-7.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

We conclude that NNSA is obliged to prepare and issue a new CMRR dSEIS that incorporates "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts," and offers a true range of genuine alternatives. We further assert that it is not sufficient to address our concerns in a Final CMRR SEIS that will offer no opportunity for public comment. **A new CMRR-NF DSEIS should be prepared and issued by NNSA so that the agency meets its legal NEPA obligations.**

However, we don't doubt that NNSA will balk over preparing a new dSEIS. As a general rule, an agency can change an environmental impact statement based on comments, since that is the purpose of a public comment period to begin with (and, in fact, federal agencies are required to at least respond to comments). Of course, if the changes are too dramatic, the agency arguably has to issue another draft and go through another round of comment, so the question is how extensively does the next round deviate from what the public commented on. We recognize that in general federal agencies have wide discretionary latitude, and in the general rulemaking context the test is whether the changes are the "logical outgrowth" of the original proposal plus the comments on it.

204-7 cont'd

But in this case we again argue that since NNSA failed to offer a genuine range of alternatives to building the Nuclear Facility, and inappropriately constrained consideration of the dSEIS to just the physical changes of the CMRR-NF, that the agency has an obligation to withdraw this dSEIS and prepare another for public comment.

The Nuclear Facility's fundamental purpose and need must be reexamined. The Draft SEIS claims, "The purpose and need for NNSA action [to build the Nuclear Facility] has not changed since issuance of the 2003 *CMRR EIS*. NNSA needs to provide the physical means for accommodating the continuation of mission-critical AC [analytical chemistry] and MC [materials characterization] capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner." Summary page 8 ("S-8").

To reduce NNSA's argument, it is essentially that the old CMR Building AC and MC missions must continue at LANL; therefore the Nuclear Facility's mission need has not changed; therefore *ipso facto* the Nuclear Facility must be built. But that is syllogistic, a non sequitur, again offering no true range of alternatives as NEPA legally requires. At issue in this dSEIS is <u>not</u> whether or not special nuclear materials AC and MC continue at LANL, but instead their appropriate scale and how to best configure their necessary "physical means" given new information and circumstances since the 2003 CMRR Project EIS.

204-5 cont'd

NNSA's FY 2011 Strategic Plan states, "Many things have changed since the last National Nuclear Security Administration (NNSA) Strategic Plan was published in 2004," the same year that NNSA made its Record of Decision to proceed with the CMRR Project. The first thing the new strategic plan points to is President Obama's April 2009 Prague speech in which he called for a future world free of nuclear weapons. Therefore, there is an overarching need to reexamine the purpose and need of the Nuclear Facility, slated to operate as long as "toward the end of the twenty-first century" (S-16), and how it helps or obstructs reaching that lofty goal.

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Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

To be accurate, at the same time, Obama's Prague speech called for rigorous interim maintenance of the U.S. nuclear stockpile. His April 2010 Nuclear Posture Review (NPR) specifically endorsed constructing and operating the CMRR-Nuclear Facility as one of "the following key investments [that] were required to sustain a safe, secure, and effective nuclear arsenal." However, one thing the NPR did not do was to raise LANL's level of plutonium pit production from the currently sanctioned level of up to 20 plutonium pits per year, despite repeated major attempts by the NNSA to do so.[13]

204-5 cont'd

Nevertheless, upon questioning at public CMRR meetings NNSA officials have said that the Nuclear Facility is to be built with 22,500 sq. ft. of plutonium processing space, the size of which a 2007 NNSA-commissioned study explicitly linked to a future production rate of 50-80 plutonium pits per year.[14] That same study also assumed that new design nuclear weapons, the so-called Reliable Replacement Warheads (RRWs), would be produced, requiring expanded plutonium pit production.

204-3 cont'd

Related, in the FY 2007 Energy and Water Appropriations Bill, the Senate Appropriations Committee Subcommittee for Energy and Water Development stated:

> The Committee has reviewed the Department's Complex 2030 proposal and noted several assumptions regarding mission scope of the CMR-R facility that don't seem to match current planned activities. The Committee directs the Administrator to deliver a report by June 1, 2007, clarifying the cost and mission requirements this facility will be expected to address. [15]

In the required report NNSA stated:

> The first two Complex 2030 strategies, transforming the Nation's nuclear weapons stockpile and transforming the physical infrastructure of the nuclear weapons complex, specifically involve the CMRR. **The CMRR would contribute to the first strategy by supporting the interim production of pits for Reliable Replacement Weapons** should the Nuclear Weapons Council and Congress continue to support this concept beyond Phase 2A (which consists of developing RRW's costs, scope, and schedule). **The CMRR would support the second strategy by contributing to a modernized nuclear weapons complex**…

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[13] These attempts to do so include: the 1996 Stockpile Stewardship and Management Programmatic Environmental Impact Statement (PEIS); the 2003 draft Modern Pit Facility EIS (never went to a final EIS); the 1999 and 2008 LANL Site-Wide Environmental Impact Statements; the 2006 "Complex 2030" PEIS; the 2008 "Complex Transformation" PEIS; and outside of NEPA processes the Obama Administration's April 2010 Nuclear Posture Review (upon which the NNSA draws heavily to justify the CMRR-Nuclear Facility).

[14] *Independent Business Case Analysis of Consolidation Options for the Defense Programs SNM and Weapons Programs*, TechSource, Inc., Santa Fe, New Mexico, December 2007, Ch. 5 p. 3 . It is one of 100's of Complex Transformation SPEIS reference documents at http://www.complextransformationspeis.com/links_ref_pdfs.html
To conveniently find it, search "TechSource 2007a"

[15] Senate Report, 109-274, page 155.

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Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

> Option I: Use existing LANL plutonium facilities only and defer all new plutonium facilities, including the NF. This option does not satisfy NNSA's mission needs because it provides limited pit production capability, does not address plutonium storage needs, and offers limited ability to absorb the transfer of missions currently conducted at LLNL.
> Option II: Use existing LANL facilities, supplemented by the NF to achieve a higher pit production capability and to support transfer of LLNL plutonium mission and material to LANL.
> Option IIA: Rely on the current NF design approach, which has not been optimized for pit manufacturing capacity. This option has been NNSA's plan since its CMRR Record of Decision in February 2004 and through the CMRR's CD-1 in May 2005.
> Option IIB: Expand the NF's capabilities to achieve a somewhat higher pit production capacity.
> Option III: Use existing LANL plutonium facilities as interim assets until a new consolidated plutonium facility is operational.
> Option IV: Combine Options II and III. Option II would allow for a delay in implementing Option III, or would serve as prudent risk management by assuring national security capabilities are retained while Option III is implemented.
> Thus, the CMRR has a significant role in Complex 2030 planning in either Option II or Option IV.[16] (Bolded passages are addressed below.)

NNSA later changed its "Complex 2030" proposal to "Complex Transformation," for which a Record of Decision was published stating:

> Manufacturing and research and development (R&D) involving plutonium will remain at the Los Alamos National Laboratory (LANL) in New Mexico. To support these activities, NNSA will construct and operate the Chemistry and Metallurgy Research Replacement–Nuclear Facility (CMRR–NF) at LANL as a replacement for portions of the Chemistry and Metallurgy Research (CMR) facility, a structure that is more than 50 years old and faces significant safety and seismic challenges to its continued operation…
>
> With respect to plutonium manufacturing, NNSA is not making any new decisions regarding production capacity until completion of a new Nuclear Posture Review in 2009 or later. **NNSA does not foresee an imminent need to produce more than 20 pits per year to meet national security requirements.** This production level was established almost 10 years ago in the ROD (64 FR 50797, Sept. 20, 1999) based on the Site-wide Environmental Impact Statement for Continued Operation of the Los Alamos National Laboratory (1999 LANL SWEIS; DOE/ EIS–0238). The ROD based on the

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[16] *Chemistry and Metallurgy Research Building Replacement Project, Preface and Executive Summary*, NNSA, May 2007, parenthesis in the original. http://www.doeal.gov/SWEIS/OtherDocuments/427%20NNSA%202007%20CMR%20senate%20report.pdf

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2008 LANL SWEIS (DOE/EIS–0380) continued this limit on production (73 FR 55833; Sept. 26, 2008). NNSA will continue design of a CMRR–NF that would support a potential annual production (in LANL's TA–55 facilities) of 20–80 pits. The design activities are sufficiently flexible to account for changing national security requirements that could result from a new Nuclear Posture Review, further changes to the size of stockpile, or future Federal budgets. Furthermore, because **NNSA's sensitivity analyses have shown that there is little difference in the size of a facility needed to support production rates between 1 and 80 components per year**, the future production capacity is not anticipated to have a significant impact on the size of the CMRR–NF. [17]

To address the bolded passages above in sequence:

- Congress shot down the Reliable Replacement Warhead, and we contend that with it Congress also shot down the need for expanded plutonium pit production, and therefore the need for the CMRR-Nuclear Facility.
- The CMRR Project as a whole has already substantially contributed to "modernization" of the nuclear weapons complex through construction of its first phase, the 180,000 square feet the Radiological Laboratory/Utility/Office Building (RLUOB or "Rad Lab"). The Nuclear Facility still does not need to be built for all the reasons we set forth in these comments. ***204-3 cont'd***
- "Option I: Use existing LANL plutonium facilities only and defer all new plutonium facilities, including the NF" should be pursued precisely because plutonium pit production does not need to be expanded, plutonium storage needs can be met by building a new stand alone vault delinked from the claimed justification and rationale for the Nuclear Facility. We argue that a new CMRR dSEIS should examine the alternative of building a new vault without the Nuclear Facility. [18] ***204-8 cont'd***
- We are aware that some special nuclear materials (SNM) have already been transferred from the Lawrence Livermore National Laboratory (LLNL) to LANL, but not missions. In fact, the opposite seems to be true, with for example the reported delegation of leadership to LLNL for a W78 Life Extension Program when that warhead was originally designed by LANL. In any event, a new CMR dSEIS should state what LLNL missions might be moved to LANL. ***204-10***
- While the delayed April 2010 Nuclear Posture Review (NPR) did endorse construction of the Nuclear Facility it did not expand the level of plutonium pit production. NNSA's statement that there is not an imminent need to produce more than 20 pits per year to meet national security requirements still holds true. ***204-3 cont'd***
- NNSA's argument that "there is little difference in the size of a facility needed to support production rates between 1 and 80 components per year" as justification for the Nuclear Facility can be turned on its head. We can use it to argue our main point, that a ***204-8 cont'd***

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[17] Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Operations Involving Plutonium, Uranium, and the Assembly and Disassembly of Nuclear Weapons, NNSA, December 19. 2008http://www.complextransformationspeis.com/Plutonium%20ROD.pdf

[18] We will be consistent throughout these comments in our demand that this draft CMRR-Nuclear Facility be withdrawn and a new one prepared. But if NNSA fails to do and goes right into a final SEIS (which we oppose), we note that NNSA should nevertheless analyze the issues we raise in the final.

204-10 The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. NNSA mission assignments are not within the scope of the SEIS.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

new dSEIS should consider the reasonable alternative of not building the Nuclear Facility, relocate the AC and MC missions of the old CMR Building between the new Rad Lab and PF-4, LANL's existing plutonium pit production facility. **204-8 cont'd**

Moreover, NNSA acknowledges that W88 pit production is coming to an end. W88 pit production was always the "camel's nose under the tent" in terms of DOE's rationale of why pit production had to be reestablished. W88 pits were in the production line at the Rocky Flats Plant when the FBI raided it in 1989 investigating environmental crimes and production was never resumed there (and a few years later the plant lost its nuclear weapons mission). DOE argued that because of the attrition of one pit type per year due to annual stockpile surveillance destructive analysis that it needed resumed production to at least take even with respect to W88 pits. Thus, in time, 6 years later than scheduled and at a cost we estimate greater than $3 billion, LANL finally managed to produce it first certified (i.e., "diamond-stamped" for the stockpile) W88 pit, and appears to be ending that production run after producing what we estimate to be under 35 pits. Between that and the rejection of the Reliable Replacement Warhead there is no apparent need for the production of new pit, and therefore the Nuclear Facility is not needed.

NNSA must justify why a new Nuclear Facility is needed.
Again, we maintain that the NF has always been about directly supporting expanded pit production. For example, from NNSA's own FY11 Stockpile Stewardship and Management Plan:

> Existing Los Alamos plutonium facilities are not sustainable and do not provide an inherent manufacturing capacity sufficient for the range of possible future scenarios…
> Path Forward…
> • Complete the design and begin construction of the Chemistry and Metallurgy Research Replacement Nuclear Facility at Los Alamos (a facility that conducts plutonium research and development and provides analytical chemistry and materials characterization to all plutonium programs such as surveillance, manufacturing, and plutonium disposition.) **Plan and program to complete construction no later than 2020, and ramp up to full operations in 2022.**
> • Increase pit processing capacity and capability at the adjoining PF-4 (part of the main plutonium facility) at Los Alamos to demonstrate pit reuse by 2017 and manufacturing by 2018-2020. **Plan and program to ramp up to a manufacturing capability of up to 80 pits per year in 2022**. Complete required investment in PF-4 infrastructure and waste processing capabilities in time to support expected plutonium capability in 2022.[19]

204-3 cont'd

It is not coincidental that those two points are presented together; in fact they are co-joined, part of the one action to expand plutonium pit production capability. Concerning whether LANL's plutonium facilities are sustainable, we agree that the old CMR Building is not, at least for operations with Hazard Category 2 special nuclear materials

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[19] NNSA FY11 SSMP, p. 23-24, http://www.nukewatch.org/importantdocs/resources/Stockpile_Stewardship_and_Management_Plan_2010.pdf Parenthesis in the original, bolded emphasis added.)

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(SNM). However, not only is PF-4 clearly sustainable, but it has in fact already been retrofitted with additional glovebox lines and equipment to achieve expanded production capability of up to 80 plutonium pits per year, as evidenced by the following:

> LANL 08 Performance Evaluation Report
> Pit Manufacturing Equipment
> Measure 1.13 Build Six New W88 Pits & Install Equipment in FY 2008 to increase Pit Capacity to 80 Pits per Year by the Operational Date of a CMRR-Nuclear Facility (Incentive/Base)
> Expectation Statement:
> Build six new W88 pits and install equipment in FY 2008 to increase pit capacity to 80 pits per year by the operational date of a CMRR-Nuclear facility.
> Completion Assessment:
> LANS [Los Alamos National Security, LLC] has submitted completion evidence for award of full fee. NNSA has validated appropriate and timely completion.[20]

204-3 cont'd

All that is lacking for the desired "range of possible future scenarios," that is "to ramp up to a manufacturing capability of up to 80 pits per year in 2022," are the expanded SNM materials characterization and analytical chemistry capabilities needed to directly support expanded pit production. This is where the CMRR NF comes in. But while various high-level documents have blessed construction and operation of the CMRR NF, none have allowed expanded plutonium pit production. The 1999 LANL Site-Wide Environmental Impact Statement set that level at 20 pits per year. Since that time, in one form or the other, the Modern Pit Facility EIS, the Complex 2030 Programmatic EIS, the 2008 LANL Site-Wide EIS, and the Complex Transformation Supplemental PEIS have all set out to formally expand plutonium pit production, but in each case failed to do so.

For there to be truly impartial NEPA review without predetermination there must be analysis of the fundamental need of the NF given that: 1) there has been no decision to expand beyond the currently approved production rate of 20 pits per year; and 2) there is no foreseeable decision to do so anytime soon. In effect, NNSA has predetermined that there will be expanded plutonium pit production (see SSMP above) which predetermines that the NF is necessary. A new draft SEIS should specifically examine the likelihood that there will be a formal decision to expand pit production, and the need for the Nuclear Facility in the absence of such a decision. [For more please see our Attachment 3.]

204-11

Current and proposed Life Extension Programs do not justify the Nuclear Facility.

We have repeatedly made the point that since the Reliable Replacement Warhead was rejected by Congress there is no need for expanded plutonium pit production and therefore for the Nuclear Facility. However, the NNSA 2007 report to the Senate Appropriations Committee did state that:

204-12

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[20] LANL 08 Performance Evaluation Report**,** NNSA, http://www.doeal.gov/laso/GeneralDocs/FY%202008%20Performance%20Evaluation%20Report%20Final.pdf

204-11 As the commentor notes, a number of previous NEPA documents (some draft and some final) included alternatives that evaluated pit production levels above the selected level of 20 pits per year. A purpose of these documents was to analyze the impacts from an array of proposed actions and alternatives. NNSA decisions to date have been to retain the level of pit production at 20 pits per year in response to Congressional and Presidential directions regarding NNSA's mission requirements. NNSA disagrees with the commentor regarding the lack of an impartial NEPA analysis without "predetermination." As indicated in response to earlier comments (204-3 and 204-5), NNSA's purpose and need are to provide analytical chemistry and materials characterization operations at LANL in support of all its assigned missions and NNSA does not plan to revisit previous decisions made through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644) on the maintenance of CMR operational capabilities at LANL to support critical NNSA missions. The *CMRR-NF SEIS* considers how to construct a replacement building to replace an aging building that was constructed and used for almost 50 years before LANL was assigned the mission of pit production.

204-12 Comment noted.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

> Future Plutonium Missions:
> The need for future plutonium capabilities is well established and includes:
> • Meeting national security requirements for pit production for **life extension programs** and/or RRWs.[21] (Emphasis added.)

So it is not just a matter of RRWs. We anticipate that NNSA will now argue that in effect pretty much the same suite of production capabilities will be needed for possible future "intrusive modifications" to existing pits made during Life Extension Programs, and therefore the Nuclear Facility is needed. For starters, the Nuclear Facility will have little or no role in current and proposed "Life Extension Programs" that seek to extend the service lives of the W76 and W78 ballistic missile warheads and the B61 bomb. Those LEPs are scheduled to be completed or well underway before the NF is due to be operational in 2024.[22] We assert that taxpayer money misdirected into the CMRR-Nuclear Facility would be better used for maintenance and upgrades of existing facilities, programs and routine stockpile maintenance.

The question then becomes how is the CMRR-NF needed for Life Extension Programs beyond 2024, and further how does that comport with the Obama Administration's declared goal of a future world free of nuclear weapons? First, Life Extension Programs do not yet include virgin production of new plutonium pits, and there is no current indication that they will do so. However, NNSA has indicated that "intrusive modifications" to existing pits may be needed for the express purpose of enhanced "surety," meaning preventing the unauthorized (i.e. terrorist) use of nuclear weapons.

204-12 cont'd

We think it may be very ill-advised to intrusively modify pits for surety purposes as any modifications to the nuclear explosives package could affect nuclear weapons reliability when they can no longer be full-scale tested (and the alternative that they be tested full-scale is even worse from a global nonproliferation perspective). Moreover, our nuclear weapons will always have to be protected by "guns, guards and gates" anyway because even if they had inherent surety the loss of nuclear weapons design information and materials would be extremely serious.

We argue for a very conservative approach to maintaining the U.S. nuclear weapons stockpile, one that intentionally tries to preserve the tested pedigree and minimize changes. We understand that U.S. nuclear weapons need replacement of limited life components, but that is well understood, already routinely performed over decades, and is not rocket science. In short, the CMRR-Nuclear Facility is not needed for maintaining the safety and reliability of the U.S. nuclear weapons stockpile. To the extent (if any) that the

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[21] *Chemistry and Metallurgy Research Building Replacement Project, Preface and Executive Summary*, NNSA, May 2007, p. 5.
[22] See chart of LEP schedules, NNSA FY 2011 Stockpile Stewardship Plan, p. 21, http://www.nukewatch.org/importantdocs/resources/Stockpile_Stewardship_Plan_Annex_A_0610.pdf. Nuclear Watch believes this question is particularly apt given that the CMRR-Nuclear Facility is scheduled to be operational in 2024; Life Extension Programs will reportedly extend service lives up to 30 years; therefore the CMRR-NF will theoretically work on nuclear weapons that will be operational until 2054. Moreover, the CMRR-NF will reportedly have a service life of up to 2075. How does that comport with a future nuclear weapons-free world?

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Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

Nuclear Facility encourages profound changes to the already extensively test stockpile (particularly with respect to plutonium pits or the nuclear explosives package), the NF's very existence could undermine nuclear weapons safety and reliability and therefore national security. 204-12 cont'd

The appropriate configuration of LANL's AC and MC missions.
NNSA will no doubt repeatedly argue that because the materials characterization and analytical chemistry missions of the old CMR Building are needed that the Nuclear Facility is needed. Again, Nuclear Watch is not using this CMRR-NF dSEIS to argue against LANL's retention of AC and MC capabilities. To be clear, we are unwavering in our commitment to a future nuclear weapons-free world, but the question for us is how to best get there.

We actually think it would be a setback should somehow LANL theoretically lose its SNM AC and MC capabilities, certainly politically with Congress. We are not knee-jerk reflexively against LANL, and recognize that AC and MC capabilities are necessary for a number of non-weapons applications that we want to encourage.[23] But we are adamantly against the Nuclear Facility, because we know it will set us back in progress toward a future nuclear weapons-free world. Again, the question is how to best configure remaining AC and MC capabilities to best meet and be aligned with the full mix of national security needs, including greater budget accountability and eradicating nuclear weapons, which are the only military threat that can strategically threaten our very national survival. 204-13

LANL's analytical chemistry mission has already been relocated to PF-4.
We think the answer has already been largely answered. First, as the dSEIS itself notes, "Most of these capabilities are found at the [old] CMR Building, although a subset of AC and MC capabilities resides in the TA-55 Plutonium Facility and other locations at LANL." (dSEIS, sec. 2.4.1, p. 2-7.) Thus AC and MC capabilities are already present at PF-4. 204-8 cont'd

However, in a letter a few years ago NNSA Administrator Tom D'Agostino wrote to the Defense Nuclear Facilities Safety Board that:

> NNSA and LANL have made progress in consolidating capabilities within the CMR Facility and relocating capabilities to other facilities. For example, Actinide Analytical Chemistry operations have been consolidated into Wings 5 and 7 and Materials Characterization operations have been relocated to the Plutonium Facility.[24]

[23] For example, nuclear nonproliferation programs (especially we hope the development of arms control verification technologies); dismantlement efforts; and waste management
[24] Tom D'Agostino, NNSA Administrator to DNFSF Chairman A.J. Eggenberger, October 1, 2008, http://www.hss.energy.gov/deprep/2008/TB08O01A.PDF second paragraph

204-13 Comment noted.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

Given no need to expand pit production, the old CMR Building's analytical chemistry mission, used mainly in quality assurance for ongoing pit production, could be transferred to PF-4 as well. This would help to achieve NNSA's goal of better SNM consolidation in highly secure areas. CMR's non-Cat I/II operations, some of which we support (e.g., radioactive waste disposal R&D, IAEA inspector training, support of nonproliferation programs), could be transferred to the CMRR light labs and office space already being equipped for operational completion. *204-14*

The bottom line is that CMRR's Nuclear Facility is simply not needed. At this point, NNSA and LANL don't really know what they want the Nuclear Facility for, other than expanded plutonium pit production. As a May 2008 DNFSB report noted, the Nuclear Facility's currently proposed design calls for a flexible, open floor plan to accommodate "as-yet unknown future missions," which the Board likened to a "hotel concept." Why spend billions on CMRR's Nuclear Facility if it has no clearly articulated mission need? *204-3 cont'd*

Nuclear Watch NM is, of course, not privy to the classified details of special nuclear materials (SNM) materials characterization and analytical chemistry. However, we have the impression that up to a hundred analytical chemistry samples may have to be analyzed while an individual pit is being produced. Thus the scale of plutonium pit production has everything to do with the scale of the needed analytical chemistry mission, since needed AC samples may be two orders of magnitude above actual production. But we have repeatedly pointed out that plutonium pit production is not being expanded anytime in the foreseeable future. It then follows that the scale of analytical chemistry operations does not have to expand (although we will concede to the fact that the quantity of needed AC samples is not necessarily linear to the amount of floor space needed for it).

A "Technical Area-55 Capabilities Study" is needed. *204-15*

The recent House Energy and Water Appropriations report stated:

> The NNSA is not prepared to award that [CMRR] project milestone since it must first resolve major seismic issues with its design, **complete its work to revalidate which capabilities are needed**, and make a decision on its contracting and acquisition strategies.[25]

Here's where we are going with this: There should be a "Technical Area-55 Capabilities Study" that examines what plutonium capabilities are truly needed under the currently sanctioned level of 20 pits per year, and how to appropriately configure those capabilities. The old CMR's analytical chemistry mission could possibly be consolidated at PF-4, particularly if other operations at PF-4 are terminated as scheduled, specifically the pilot programs for MOX fuel fabrication and the related Advanced Recovery and Integrated Extraction System for recovering plutonium oxides, all slated for transfer to the Savannah River Site. A new dSEIS should incorporate the findings of such a capabilities study, instead of just predetermining the need for a Nuclear Facility. More

[25] House Energy and Water Development Appropriations Bill, 2012, p. 131, emphasis added.

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204-14 NNSA disagrees with the commentor's assessment that necessary amount of analytical chemistry mission work could be moved into the TA-55 Plutonium Facility. As discussed previously in response to Comment no. 204-7, NNSA has determined that the level of analytical chemistry and materials characterization needed to fully support the plutonium mission (stockpile stewardship, maintenance, and pit production), cannot be provided in existing facilities.

204-15 NNSA has looked at options involving the use of the TA-55 Plutonium Facility (PF-4) for performing the mission needs that would be fulfilled by the proposed CMRR-NF and concluded that the facility cannot accommodate all of the required activities. As discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, using space in this facility would interfere with existing work and reduce the space available for future NNSA mission support work. See the response to Comment 204-8 for more information regarding the use of the TA-55 Plutonium Facility (PF-4).

The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

broadly, the adverse example that building the Nuclear Facility could present to the international community also needs to be considered, especially when they fly in the face of our declared national security goal of future nuclear weapons-free world.

204-15 cont'd

The NNSA's FY 2011 Strategic Plan states:

> As requirements for new or expanded capabilities emerge, our reinvestment strategy will use accepted life cycle management standards to integrate maintenance and replacement schedules with needs for new facilities and capabilities. P. 10.

But that presumes a need for "requirements for new or expanded capabilities," which is not clear and perhaps just self-serving to NNSA and its nuclear weapons complex. What are these needed new or expanded capabilities, if indeed we are seeking a future world free of nuclear weapons? If these needs exist, NNSA must explain why plutonium pit production must be expanded. If expanded production is not needed, then why is the CMRR-Nuclear Facility needed? A new dSEIS should address all of this.

204-3 cont'd

To conclude this section:

- There is no indication that there will be a formal decision to expand future LANL production of new plutonium pits. In any event, it would require additional NEPA steps, which are not in the offing for the foreseeable future.
- The CMRR-Nuclear Facility dSEIS should be tiered off a decision to expand plutonium pit production, and not proceed before then.
- Life Extension Programs that might intrusively modify existing pits in existing nuclear weapons must be carefully reviewed by independent nuclear weapons experts as to whether they are necessary to begin with, and whether they could affect nuclear weapons reliability.
- In any event, the CMRR-Nuclear Facility will not be operational until those LEPs are completed or well underway. LEPs beyond that have not been yet proposed by the NNSA. The justification for the CMRR-Nuclear Facility should not be premised on Life Extension Programs.
- There should be a "TA-55 Capabilities Study" to determine what is truly needed to meet plutonium national security needs, including encouraging a future nuclear weapons-free world.
- We assert that the old CMR's missions of special nuclear materials characterization and analytical chemistry can be re-located between the newly built and equipped Rad Lab and PF-4.
- An option in that configuration is to build a stand-alone SNM vault, de-linked from the need to build the Nuclear Facility as a whole.
- A new dSEIS needs to offer and explore a genuine range of reasonable alternatives, such as we articulate above.

We offer further background in Attachment 3 on why PF-4's floor space could be reconfigured such that the old CMR's analytical chemistry mission could be relocated there, thereby obviating the need for the exorbitant and counterproductive Nuclear Facility. Critical to this is the fact that CMR's materials characterization mission has already been consolidated there. So why can't AC? In order to offer a full range of

204-16

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204-16 NNSA acknowledges the commentor's position and suggestions. These points have been addressed in the preceding responses to comments.

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reasonable alternatives as required by the National Environmental Policy Act, NNSA needs to consider that in a new dSEIS. *204-16 cont'd*

The mission need for the CMRR-Nuclear Facility does not justify exploding costs.

An unconscionable amount of taxpayer money is typically expended anytime DOE nuclear facilities are built. The expense associated with controlling radioactive and fissile materials is astronomical. Please analyze the impacts of diverting these funds away from renewable energy and nonproliferation programs at the Los Alamos National Laboratory (LANL) for a new facility to directly support production of plutonium pits or "triggers" for nuclear weapons, called the Chemistry and Metallurgy Research Replacement (CMRR) Project, and specifically the Nuclear Facility (NF).

Does management of a very large construction project fit into LANL's mission?
Where in LANL's mission statement does it state that LANL is to be a premier construction management company? The effort required to manage a $5 billion facility can only be a distraction to the work that LANL and only LANL can do. Does the shear size of the project demand so much time from DOE and LANL management that the smaller scientific, and everything is smaller, efforts get pushed aside? Has the shear size of the effort drawn resources from essential program? *204-17*

A cost-benefit analysis is needed.
A legitimate draft SEIS would perform a cost-benefit analysis because of the Nuclear Facility's exploding costs. A relevant DOE NEPA Implementation Regulation states:

> If a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences. To assess the adequacy of compliance with section 102(2)(B) of the Act the statement shall, when a cost-benefit analysis is prepared, discuss the relationship between that analysis and any analyses of unquantified environmental impacts, values, and amenities. For purposes of complying with the Act, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations. In any event, an environmental impact statement should at least indicate those considerations, including factors not related to environmental quality, which are likely to be relevant and important to a decision.[26]

Given its exploding costs, if there was ever a project that needed a cost benefit analysis it is the CMRR-Nuclear Facility, which a new dSEIS should include.

[26] 10CFR1021 1502.23 Cost-benefit analysis,"
http://ceq.hss.doe.gov/nepa/regs/ceq/1502.htm#1502.9

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204-17 As discussed in the response to Comment 204-4, the proposed CMRR-NF would support a range of activities at LANL including stockpile stewardship and pit production but it is not tied specifically to LANL's pit production capability. LANL construction efforts, such as the proposed CMRR-NF should it be constructed, would be managed by the LANL Capital Projects Division and overseen by NNSA. Bechtel, one of the largest construction management companies in the world, is now one of the team members operating LANL. Its expertise could be drawn upon if the CMRR-NF is built.

The costs of phases of the CMRR Project are not within the scope of the *CMRR-NF SEIS*. DOE does not typically include a cost-benefit analysis in its EISs and there is no requirement that a cost-benefit analysis be included in an EIS. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. See the responses to comments 204-7 and 204-8 regarding upgrades to the CMR Building and TA-55.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

Stated Congressional concerns over CMRR costs.

For good reason, the Department of Energy has been on the GAO's High Risk List for project mismanagement and cost overruns for 19 consecutive years. A few spectacular past and present examples of exploding costs are: the National Ignition Facility (originally estimated at $1 billion, now >$5 billion), the Hanford Vitrification Plant ($3B to ~$13B), the Chemical and Metallurgical Research Replacement (CMRR) Project at Los Alamos ($660M to ~$6B), and the Uranium Processing Facility at Y-12 ($3B to $6.5B). Congress should not allow DOE construction projects to go forward until their designs are 90% complete and credible baseline cost estimates are known.

The House Appropriations Committee recently reported:

> While the importance of modernization is understood, the economic crisis requires that the NNSA proceed with its modernization activities in a responsible manner and the Committee is seriously concerned with the recent cost growth reported for construction of the Uranium Processing Facility (UPF) and the Chemistry and Metallurgy Research Replacement (CMRR) Project. The current price tag for UPF is projected between $4,200,000,000 and $6,500,000,000 and the CMRR Nuclear Facility is estimated to cost between $3,700,000,000 and $5,800,000,000. These are conceptually replacement facilities to make operations more safe and efficient, but construction will also enable the reconstitution of certain production capabilities that have been lost but are needed to meet the needs of an aging stockpile. Many gaps remain in the planning efforts, and basic capability requirements and acquisition strategies continue to be re-evaluated. Modernization will take several years and the considerable number of variables still at play argues against an excessively aggressive funding curve. The construction of the new major facilities must not force out available modernization funding for the rest of the nuclear security enterprise. Therefore, the Committee supports the adoption of cost reduction strategies to make construction more affordable and to curb continued cost escalation. Further, these projects will be closely monitored to ensure that prudent project management practices are followed, and the Committee is prepared to make adjustments to the funding profiles to ensure that taxpayer funds are not wasted.[27]

A new dSEIS should analyze the House's concerns both with respect to escalating costs and whether they would "force out available modernization funding for the rest of the nuclear security enterprise."

204-17 cont'd

The House Report further states:

[27] 112TH CONGRESS REPORT 1st Session HOUSE OF REPRESENTATIVES 112– ENERGY AND WATER DEVELOPMENT APPROPRIATIONS BILL, 2012, pp. 129 -130, http://appropriations.house.gov/UploadedFiles/FY_2012_ENERGY_AND_WATER_FULL_COMMITTEE_REPORT.pdf

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Project 04–D–125, Chemistry and Metallurgy Research Replacement (CMRR), Los Alamos National Laboratory.—The Committee recommends $200,000,000, $100,000,000 below the budget request. The Committee fully supports the Administration's plans to modernize the infrastructure, but intends to closely review the funding requests for new investments to ensure those plans adhere to good project management practices. The latest funding profile provided to the Committee indicates that over half the funding requested for the Nuclear Facility would be used to start early construction activities. The recommendation will support the full request for design activities, but does not provide the additional funding to support early construction. The NNSA is not prepared to award that project milestone since it must first resolve major seismic issues with its design, complete its work to revalidate which capabilities are needed, and make a decision on its contracting and acquisition strategies.[28]

"Report on Footprint Reduction.—Despite promises for a leaner, more efficient and streamlined enterprise, the NNSA footprint has actually been growing over the past few years. Both the Uranium Processing Facility and the Chemistry and Metallurgy Research Replacement project will have more square footage than the legacy facilities they are meant to replace, and the High Explosive Pressing Facility will occupy nearly seven times the space of current operations. While new construction is adding footprint, no funding is planned for demolition activities beyond the completion of the Facilities and Infrastructure Recapitalization Program in 2013. Costs of demolition and decontamination work are not reported alongside new construction as required, nor are they integrated into the 30- year infrastructure priority lists. The costs of demolition and decontamination work are not being taken into account when making investment decisions and the timeline for demonstrating any savings in operating costs, as regularly described in the rationale for new facility construction, is being extended to the distant future. Since the NNSA is not meeting its requirement to demolish an equal amount of square footage for eachamount added, the Committee questions whether there truly is a commitment to a leaner, more efficient nuclear security enterprise..." [29]

The Senate of course has its concerns as well. The marked up FY 2012 Senate Defense Authorization Act has the following passage on the CMRR-Nuclear Facility:

The committee continues to believe that managing the design and construction of the CMRR, the UPF, and the other new NNSA nuclear facilities will be very challenging. Managing these projects in accordance with the DOE 413 order series and project management and guidance is essential for success, as is making sure that the projects have clearly defined and validated requirements that do not change. The NNSA is also directed to conduct a true independent cost estimate for both the CMRR Nuclear Facility, which is phase III of the CMRR project, and the UPF. The committee instructs the Government

[28] Ibid., p. 131
[29] Ibid, p. 123

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> Accountability Office (GAO) to review these independent cost estimates to ensure the accuracy of the cost estimates. The committee also directs the GAO to evaluate the NNSA's efforts to ensure that all cost savings measures have been considered. The committee continues to be concerned that the phase III project is being divided into multiple sub-projects. Not- withstanding this management approach the committee directs as it did last year, that the CMRR baseline, when developed and sub- mitted to the committee at the CD–2 phase of construction, reflect all phases and subprojects for the purpose of developing a cost and schedule baseline and to be accounted for as a single project.[30]

While obviously we don't carry the weight of Congress, we use all of its concerns stated above to underscore and buttress our own. NNSA has repeatedly stated that it won't begin construction of the Nuclear Facility until its design is 90% complete. While not condoning construction of the Nuclear Facility, we agree with that in principle as the minimum needed for responsible use of taxpayers' money (especially given DOE's history).

But what constitutes "construction"? NNSA requested $300 million in CMRR funding for FY 2012, of which ~$270 million is allocated as "TBD" [To Be Determined], in contrast to its FY 2011 request which was all allocated. Upon questioning local Los Alamos Site Office officials have stated that once the SEIS Record of Decision is released NNSA intends to quickly launch into site preparation, which for the CMRR Project is no little thing. It may include building a materials warehouse, an electrical substation, shelter for construction workers, a concrete batch plant (maybe 2), and the installation of construction trailers. Clearly this is a substantial investment of taxpayers' money, but site prep costs are still not publicly available.

204-17 cont'd

Still more site prep is planned for FY 2013 before 90% design is completed. This may include a 125' deep excavation for the facility to allow for a 225,000 cubic yard concrete "base mat" to mitigate seismic concerns, installation of utilities, rerouting an existing road, and building lay- down areas for construction materials storage. Again, costs are not known for these activities, but it could be up to $800 million for just so-called site preparation.

If allowed, this advanced site prep will snowball the CMRR-Nuclear Facility well before Congress knows final estimated costs. In the present fiscal climate Congress should exercise greater financial control over NNSA. Major site preparation should be included in a prohibition against construction before final costs are known. Site prep can be a huge investment onto itself, has immediate environmental impacts, and obviously prejudices moving forward before Congress has the total cost picture.

Taxpayer money misdirected into the CMRR-Nuclear Facility would be better put into maintenance and upgrades of existing facilities and programs. Because of its huge size

[30] 112TH CONGRESS SENATE REPORT 1st Session, 112–26, NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2012, p. 271, http://www.gpo.gov/fdsys/pkg/CRPT-112srpt26/pdf/CRPT-112srpt26.pdf

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and the Lab's institutional investment into it, inside sources say that the CMRR-Nuclear Facility is the 900-pound gorilla sucking the oxygen out of the room for more important priorities such as critically needed stockpile surveillance and maintenance.

New cost information must force a re-evaluation of the alternatives.
Just as new seismic information has forced a re-evaluation of the construction alternatives, new cost information must force a re-evaluation of the alternatives considered. Cost considerations were given as the reason that the CMR alternative (with no upgrade) was included in this dSEIS:

> Continued Use of CMR Building Alternative However, this alternative is analyzed in this CMRR-NF dSEIS as a prudent measure in light of possible future fiscal budgetary constraints. (CMRR-NF dSEIS, Pg. 2-26)

Possible budgetary constraints could come in different sizes. There could be a budget that would allow the CMR to be upgraded but that would not allow the Nuclear Facility to be built. Analyzing an alternative to upgrade the CMR is a prudent measure and must be conducted in a new dSEIS.

A new formal business case must be executed.
Decisions made in 2004 EIS are outdated. The choice to build the Nuclear Facility is based on cost estimates made before it ballooned to ~$6B. In this dSEIS, cost is given as a factor to not upgrade the CMR, so cost must be a factor in going ahead with the Nuclear Facility. But vague references that upgrading the CMR would cost too much are not appropriate in this dSEIS. A formal business case must be executed. The passage below refers to reasons not to upgrade the CMR, but does not mention costs. We find it extremely doubtful that upgrade of the CMR would cost more than building a new Nuclear Facility.

204-17 cont'd

> However, after consideration of the various engineering and geological issues; the costs of implementing upgrades to an older structure and developing a new security infrastructure; the costs of maintaining the security infrastructure and safety basis (in addition to that for TA-55); the mission work disruptions associated with construction; operational constraints due to limited laboratory space; and programmatic and operational issues and risks from moving special nuclear material between TA-3 and TA-55, this action was not analyzed further as a reasonable alternative to meet NNSA's purpose and need for action in this (CMRR-NF SEIS, Pg. S-20)

What does "after consideration" mean? It must read, "After a careful examining of all the meticulously prepared costs…" Who did the considering? The above passage almost looks like the beginnings of a business case, but where are the numbers? For example, how much does "operational constraints due to limited laboratory space" cost? Are we to assume that the proposed budget total for the above passage exceeds the proposed cost of the Nuclear Facility? Is building the Nuclear Facility just easier to do and its cost is not a consideration?

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As a matter of fact, this dSEIS does state that upgrading the CMR would likely be less than the cost of building a new NF:

> Costs for the Wing 9 geotechnical investigations, structural and security upgrades, and construction of new support buildings and utilities installations, would be substantial, although not likely to approach those associated with either of the construction options considered under the Modified CMRR-NF Alternative. (CMRR-NF SEIS, Pg. 2-27)

Earlier decisions that lead to the current dSEIS were based on the alternative that cost the least:

> Bases for Decisions – Overview - NNSA's decision locates the three major functional capabilities involving Category I/II quantities of SNM at three separate sites where these missions are currently performed. The selected alternative, which is a combination of the Distributed Centers of Excellence and Capability-Based Alternatives, has the least cost and lowest risk. (Complex Transformation Record Of Decision #1)

Cost is mentioned as a factor in the final decision of the false alternatives in this dSEIS, as in the below. New alternatives, based on cost, must be included and given in a new dSEIS.

204-17 cont'd

> DOD is developing an independent assessment of estimated cost range data for the CMRR-NF. Analyses and recommendations from these independent assessments, information in this CMRR-NF SEIS, and other programmatic considerations will be weighed as NNSA moves toward a final decision on the construction and operation of a CMRR-NF. (CMRR-NF SEIS, Pg. 1-19)

NNSA prepared detailed business case studies of the programmatic alternatives for the Complex Transformation SPEIS. These studies are available at *http://www.ComplexTransformation SPEIS.com*. They provide a cost comparison of the alternatives and include costs associated with construction, transition, operations, maintenance, security, decontamination and decommissioning, and other relevant factors. This is the example that shows what must be performed for this CMRR-NF dSEIS.

Costs of building a plutonium pit complex in a geologically unstable area are too high.
Weapons production at any cost is how we ended up with billions of dollars required for cleanup of LANL's Cold War legacy.

LANL is located between a rift valley (the Rio Grande in that area) and an extinct supervolcano (the Jemez Mountains) in a seismic fault zone (the Pajarito Plateau). An updated seismic hazards analysis was published in May 2007. It showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the over $3 billion in cost estimate increases since 2008 are due to efforts to address the increased seismic hazards. DOE must analyze whether $3 billion is too high of a premium in order to build a new Nuclear Facility at LANL.

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At over $12,500 per square foot for the total delivered Nuclear Facility, it is clear that something is terribly wrong. The Nuclear Facility is all about the "laboratory" (we prefer to call it processing space) space. If only the 22,500 square feet of lab space is considered, the cost for special nuclear materials processing is $250,000 per square foot.

A new draft SEIS should examine CMRR compliance with DOE Order 413. We share the Senate Armed Services Committee's concern that NNSA should follow the DOE 413 order series on the proper management of the acquisition of capital assets. We argue that NNSA should make clear in a new dSEIS its compliance strategy with those orders. We further argue that starting construction, including the possibly huge "site preparation" mentioned above, before 90% design is complete and credible costs estimated is contrary to the intent of the DOE Order 413 series. However, DOE orders are not legally binding and are self-regulated with major loopholes.

The CMRR project is requesting concurrent approval of preliminary design (CD-2) and commencement of construction (CD-3). At the time of the submittal for approval the design contains significant uncertainty, significantly larger estimates of ESTIMATED COSTS, and very large contingency in account of the risk carried by the project. Again, we don't quarrel with the fact that LANL must retain some analytical chemistry and materials characterization capabilities, but do strenuously argue over how to best configure them after all factors are considered (including, but not limited to, cost tradeoffs and consistent national policy toward a nuclear weapons-free world). We certainly question the wisdom of approving a fast track approach for a project that caries such large uncertainty and risk and has already experienced significantly escalating costs. NNSA projects have a long and distinct history of exceeding budget, delayed completion, and difficulty in fulfilling objectives. Is it the best choice for the nuclear weapons complex to commit to an accelerated schedule for a project that displays the hallmarks of not meeting expectations? If the project request is granted, the funding allocated, and difficulties arise, what will happen to the overall effort? In times of severe budget constraints is it not possible that other critical components of stockpile stewardship will suffer just to put more concrete in the ground? *204-18*

Nuclear Watch suggests that rather then approve a fast track approach for this project now is the appropriate time to back track and revisit CD-1, approval of alternative analysis. Do we really know how much capability is required? Do we know if PF-4 and the CMR can accommodate the anticipated capability? Is there another site that will better suit the nation? Is LANS the appropriate contractor to manage construction of the facility?

The reasons to revisit the alternative analysis are many.

- The original analysis was performed prior to the restructuring of the contract to run LANL. Key assumptions on selection of the contractor and ties to the LANL mission have changed significantly.
- The alternative analysis was performed by a contractor that had a vested interest in the outcome and the lack of independence assured that locating the facility at LANL and managing the contract under the LANL contract was a given. This

204-18 NNSA notes the comment. The purpose of the SEIS is to address the environmental impacts for the proposed alternatives for the CMRR-NF project. Discussion of project execution or compliance with DOE Order 413, Program and Project Management for the Acquisition of Capital Assets, is not a requirement for NEPA analysis. However, the purpose of this Order is to provide DOE, including NNSA, with program and project management direction for the acquisition of capital assets with the goal of delivering projects within the original performance baseline, cost and schedule, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health requirements. DOE Order 413.3, *Program and Project Management for the Acquisition of Capital Assets*, requires that NEPA documentation be completed prior to approval of Critical Decision 2 which is defined as the point at which a definitive scope, schedule and cost baselines have been developed for the project. At that time, NNSA would proceed with final design, commit funds for long lead procurement items, if required, submit the draft Preliminary Safety Analysis Report for approval, issue the DOE safety evaluation report, as appropriate, and conduct external and independent project reviews. The CMRR-NF project is currently approved through Critical Decision 1.

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influence continues today as the contractor is heavily influenced by the need to fund the large design staff and any answer that does not direct additional funds to LANS is not even considered.

- With estimated costs approaching $6B the CMRR project dwarfs all other projects at LANL. Nowhere in the LANL mission statement is there any indication that management of the construction of nuclear facilities is key to the laboratories mission. Including the construction effort within LANS portfolio is a distraction to management of the science that is the key to the LANL mission. The size of the project demands the majority of management cycle time. Just imagine attempting to request senior management support for hiring a new scientist when the calendars of senior management are full of meetings regarding how to respond to the increased estimated costs for CMRR. You will not stand a chance and the research that is key to the LANL mission is suffering as a result.
- When the estimated costs of the facility was ~$900M it was possible to come to the conclusion that collocation of the facility with the research conducted at LANL was the cost effective approach. Now with a estimated cost approaching $6B that is no longer the case. People and material are moved within the NNSA all the time, every day. Is continued collocation a benefit or a detraction?

204-18 cont'd

It is clear that the CMRR project is at a critical stage. A configuration that ensures analytical chemistry and materials characterization capabilities is critical to interim maintenance of the stockpile while we await global nuclear disarmament. But how much will it cost? Should the nation commit limited funding to the fast track of a project that carries significant risk or should it husband its resources and seek a lower cost solution?

We are concerned that the CMRR Project has avoided due process of DOE Order 413, and think that an alternatives analysis should be generated from an independent source. With both NNSA and LANS so vested in the status quo any answer provided from within the project is suspect. This alternatives analysis should flow from a baseline TA-55 capabilities study that we have argued for earlier, and a new CMRR-NF dSEIS flow form that.

Is NNSA backing away from previously made CMRR-NF safety commitments?

The Defense Nuclear Facilities Safety Board has expressed concern that NNSA may be going back on previously made CMRR-NF safety commitments that Congress required the Board to certify. This could continue to raise safety issues that could further escalate costs. According to one media report:

> Federal safety auditors this week questioned whether the federal government is backing away from nuclear safety commitments in an effort to reduce the cost of a multibillion dollar plutonium complex being built at Los Alamos National Laboratory…
>
> Among the changes being considered in the replacement building's design are elimination of some of the building's fire suppression systems and ventilation equipment intended to prevent plutonium from leaking in the event of an earthquake and fire.

204-19

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204-19 Congress created DNFSB in 1998 as an independent oversight organization within the Executive Branch to provide advice and recommendations to the Secretary of Energy regarding protection of public health and safety at defense nuclear facilities. As such, DNFSB independently oversees activities affecting nuclear safety at defense nuclear facilities. DNFSB reviews safety issues and formally reports its findings and recommendations regarding the safety of nuclear weapons complex facilities to the highest levels of NNSA. DNFSB may conduct investigations, issue subpoenas, hold public hearings, gather information, conduct studies, and establish reporting requirements for NNSA. DNFSB is required to report to Congress each year about its oversight activities, its recommendations to NNSA, and improvements in safety at defense nuclear facilities resulting from its activities. Procedures are in place for NNSA to review and respond to DNFSB recommendations and to implement those recommendations at the sites as appropriate.

For many years NNSA has worked with DNFSB regarding identification and resolution of possible safety issues pertaining to the CMR Building, the CMRR Project, and other nuclear facilities at LANL. For example, DNFSB has reviewed DOE seismic hazard evaluations for LANL (see Section 2.6, Seismic and Geologic Concerns, of this CRD) and NNSA has worked with DNFSB to resolve questions about the design of safety class systems at the CMRR-NF (LANL 2009). In 2009, in accordance with the 2009 Defense Authorization Act, LANL received a certification of design closure from DNFSB pertaining to the CMRR Project, addressing seismic as well as engineering and design and safety control issues; the certification freed the release of allocated funding for continuation of the project (DNFSB 2009). The February 2011 letter from DNFSB to NNSA referenced in the comment pertained to DNFSB questions about modifications proposed by LANL to the design of the CMRR-NF since the 2009 certification. In its response to DNFSB, NNSA stated that at completion of its analysis of the LANL proposal, NNSA would share this information with DNFSB and solicit its input before reaching a conclusion about the LANL proposals (NNSA 2011).

Accident analyses for the *CMRR-NF SEIS* have been updated as applicable from those analyses performed for the 2003 *CMRR EIS* (see Appendix C of the *Final CMRR-NF SEIS*).

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> The possibility of those changes has raised questions about whether federal officials are backing away from commitments they made when the building's design received preliminary safety certification in September 2009, according to a letter Tuesday from the head of the Defense Nuclear Facilities Safety Board to the National Nuclear Security Administration. "Clearly the Board's certification relied upon the future full implementation of these final design commitments by NNSA," Safety Board Chairman Peter Winokur wrote.
>
> Congress required the Safety Board's certification in order for Los Alamos to continue spending money on the project in 2009.[31]

All DNFSB risk analyses must be considered.
All Defense Nuclear Facilities Safety Board (DNFSB) reports and recommendations should be incorporated by reference into the new SEIS. DNFSB monitors the nuclear activities of LANL. The Board has made a number of critiques and suggestions over the years that should be incorporated into the new SEIS to improve future operational safety at LANL. The effects of LANL not following DNFSB recommendations in a timely fashion should be considered. We also ask that DOE recalculate the accident scenarios and consequences used in the 2003 CMRR EIS in a manner that addresses the concerns and comments expressed by the DNFSB in the past seven years.

204-19 cont'd

The Shallow Construction Option is not mature and must not be considered as an alternative until analysis of this option is complete.
It is inappropriate to consider the Shallow Construction Option in this dSEIS. All environmental impacts of the Shallow Option are based upon assumptions that are not defensible at this time. Any evaluation of the Shallow Construction Option at this time is just wishful thinking unsupported. As this dSEIS itself states:

> The Deep Excavation Option is more mature, having undergone technical review by NNSA, NNSA's contractors, and the Defense Nuclear Facilities Safety Board. At this time, there is more uncertainty with the Shallow Construction Option. The Shallow Construction Option needs to be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis. (CMRR-NF SEIS, Pg. 1-13)

Most of the environmental impacts proposed in this SEIS for the Shallow Option end up being the same or similar to the Deep Option impacts. This is only speculation at this time.

Even if analyses of the Shallow Option are completed and the results are included in the final SEIS, the public will have been denied the opportunity to comment on these analyses, which is contrary to the intent of NEPA. This is unacceptable.

204-20

[31] *Safety Changes Planned for LANL*, John Fleck, Albuquerque Journal, February 10, 2011, <http://www.abqjournal.com/cgi-bin/email_reporter.pl?staff=yes>

204-20 The concerns expressed by the commentor about the Shallow Excavation Option not being a mature alternative refer to statements in Chapter 1 and Chapter 2, Section 2.6.2.1, of the *Draft CMRR-NF SEIS* indicating that there is more uncertainty in the design of the Shallow Excavation Option because that design had not reached the same level of maturity as the Deep Excavation Option. The *CMRR-NF SEIS* has been revised. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option.

Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b). The human health and environmental impacts for both the Shallow and Deep Excavation Options have been analyzed to the same level in the *CMRR-NF SEIS.* As indicated in the *CMRR-NF SEIS* and reiterated in the *Final CMRR-NF SEIS*, the Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

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Deep and Shallow Options cannot be constructed with the same amount of electricity.
As further evidence that the Shallow Option has not been fully vetted, some construction options are listed with the same impacts, which cannot be the case. For instance the dSEIS states that electricity (megawatt-hours per year) for construction of both deep and shallow options is the same - 31,000 mWh/yr (CMRR-NF SEIS Table 2-1). This cannot possibly be correct since they are using electric batch plants for the Deep Option. **204-21**

The proposed alternatives must be clarified and added to.
NNSA proposed three alternatives for the CMRR-NF SEIS as published in its October 1, 2010 Federal Register Notice of Intent:

No Action Alternative: The No Action alternative would be the construction of the CMRR-NF and the ancillary and support activities as announced in the 2004 [CMRR] ROD.
CMR Alternative 1: Do not construct a replacement facility to house the capabilities planned for the CMRR-NF. Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, with no facility upgrades, while performing routine maintenance at the level needed to sustain programmatic operations for as long as feasible.
CMR Alternative 2: Same as CMR Alternative 1 but includes making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years. **204-7 cont'd**

A new dSEIS is needed that is completely free of predetermination.
This process must be completely unprejudiced by the fact that the RULOB facility has been built, that hundreds of millions of dollars have been spent on NF design, and that the 2003 CMRR EIS, 2008 LANL Site-Wide EIS, the Complex Transformation Supplemental Programmatic EIS and the April 2010 Nuclear Posture Review have all called for construction of the NF.

We applaud NNSA's decision to undertake a supplemental environmental impact statement (SEIS) for the CMRR Nuclear Facility. But this is clearly an unusual SEIS given that CMRR's phase one, the Radiological Utility, Laboratory Office Building (RULOB, or "Rad Lab") has already been built, and further that hundreds of millions of dollars have already been spent on NF design. NNSA has not demonstrated that this is an impartial and un-predetermined process that leads to an objective decision to build the CMRR-NF or not because it has not offered real alternatives. **204-22**

We are concerned that there is ample evidence of predetermination. For example, Brigadier General Garrett Harencak, NNSA Principal Assistant Deputy Administrator for Military Application, Office of Defense Programs, when "Asked if CMRR (at Los Alamos) and UPF (at Y-12) would continue on parallel tracks, he said, "Yeah, absolutely. We're committed, the administration is committed, the NNSA is absolutely 100 percent. We're committed to build at two sites. The NPR has said and come out and told us and the administration has told us we're going to complete the design, we're going to get into

204-21 The *Final CMRR-NF SEIS* has been revised to explain the difference in electricity requirements (for example, see Table 2–3). The annual estimated electricity requirement for both construction options was rounded to two significant figures. The estimate for the Deep Excavation Option is actually somewhat higher due to the larger electrical requirements associated with producing the additional concrete required under this option (about 2,900 megawatt-hours compared to 1,100 megawatt-hours). However, the additional 1,800 megawatt-hours of electricity for increased concrete requirements work out to approximately 200 megawatt-hours per year when averaged over the 9-year construction period.

204-22 As indicated in response to earlier comments (204-3 and 204-5), NNSA's purpose and need are to provide analytical chemistry and materials characterization operations at LANL in support of all its assigned missions and NNSA does not plan to revisit previous decisions made through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644) on level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions. Please refer to Section 2.2, NEPA Process, of this CRD for more information. Thus, as noted by the commentor, the CMRR-NF design is not intended to be a generic design.

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construction and complete it by 2020 and get to work in these buildings by 2022. We are 100 percent committed to both." [32]

That sounds like predetermination.

There should be no funding for an expanded security perimeter to accommodate the Nuclear Facility until a Record of Decision (ROD) is issued for the CMRR SEIS. Similarly, any procurement activities for the NF must cease until the ROD is issued, which the draft SEIS should make explicitly clear.

To continue funding the design of the NF gives the appearance of predetermination. Final design is scheduled to begin this FY 2011. There certainly has to be enough information now to complete this SEIS competently, given that probably around $200 million has already been spent on NF design. We also contend that the NF, as currently designed, is not a generic design that can be built anywhere. It would be over-designed to address seismic issues for some possible other locations. Please discuss other possible locations that the NF, as designed, could be located. If design continues, please state how much of the current estimate is to address seismic concerns at TA-55. Please explain the rationale for continuing to design the NF while this SEIS is in progress.

If the decision to locate the NF at LANL was based on cost, this location decision must be revisited. The current estimate of ~$4 billion dollars to construct the NF is reason enough to revisit earlier decisions.

Explain why this SEIS continues before the Secretary decides whether the NF is needed or not. Explain how the capabilities that NNSA claims it needs match those provided by the proposed NF. Explain how past justifications for the NF will not prejudice the outcome of this SEIS.

204-22 cont'd

No Action Alternative - All construction and program impacts must be reexamined.
Although construction of the CMRR-NF is now called the "No Action Alternative," all the construction and programmatic environmental impacts of this proposed facility must be reexamined. Very few, if any, of the construction impacts were adequately covered in the 2003 CMRR EIS, as it said, "The new building(s) proposed for the CMRR Facility are in the conceptual design stage and, as a result, are not described in great detail in the *CMRR EIS*." (CMRR EIS, Pg. S-27.)

In effect, all parameters of the NF have changed, because the facility analyzed in the 2003 EIS was "in the conceptual design stage" and now it is designed, so all aspects of the NF must now be reanalyzed in this SEIS.

Because the current design of the NF is more mature, analyzing the exact impacts of construction is now possible. The quantities and impacts of all materials to be used and removed in the proposed construction must be stated. For example:

204-23

[32] http://blogs.knoxnews.com/munger/2010/11/harencak_mum_on_nnsa_funding_p.html

204-23 As addressed in Section 2.2, NEPA Process, of this CRD, the *CMRR-NF SEIS* is being prepared to address the environmental impacts associated with the changes in the design of the CMRR-NF due to additional seismic information. The No Action Alternative is based on the CMRR-NF as it was decided in the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967), and the environmental impacts that could result from constructing and operating it.

As discussed in Chapter 1 and Chapter 2 of the *CMRR-NF SEIS*, the 2004 CMRR-NF would not satisfy current facility seismic and nuclear safety requirements, and, therefore, would not be able to safely function at a level sufficient to fully satisfy DOE and NNSA mission needs. The analytic chemistry and metallurgical characterization capabilities that would be required in the Modified CMRR-NF are described in Chapter 2, Section 2.3 and 2.4 *CMRR-NF SEIS.*

The Modified CMRR-NF Alternative was developed to represent what the 2004 CMRR-NF would require to meet current facility seismic and nuclear safety requirements. The changes in requirements for such materials as steel and concrete included in this alternative represent the updated requirements for the CMRR-NF. As discussed in Chapter 2, Section 2.6.2.1, of the *CMRR-NF SEIS*, the additional square footage required for the Modified CMRR-NF is related to additional requirements needed to satisfy current facility seismic and nuclear safety requirements. The ancillary and support requirements referred to by the comment associated with the CMRR-NF are described in Chapter 2, Section 2.6.2.1, of the *CMRR-NF SEIS* and include such requirements as parking lots and stormwater detention ponds. The environmental impacts associated with implementing these requirements are included in the projected environmental impacts discussed in Chapter 4, Section 4.3, of the *CMRR-NF SEIS.*

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- The total cubic yards of concrete must be stated
- The total amount of steel must be stated
- The amount of dirt to be removed and the plans for its disposition must be stated
- How have seismic issues been incorporated into the design

Please describe in detail the "ancillary and support activities" that are included in this alternative. The environmental impacts of these "ancillary and support activities" must be analyzed.

The programmatic impacts must also be reexamined. List all the proposed activities and analyze their impacts separately. Please state how many plutonium pits will be built each year. What is the total number of AC samples that the proposed NF will be capable of analyzing annually? What is the total number of MC samples that the proposed NF will be capable of analyzing annually?

What is the mission contingency space currently planned for the NF?

The 2003 CMRR FEIS stated:

> 2.4.1 AC and MC Capabilities
> These capabilities include the facility space and equipment needed to support nuclear operations... Most of these capabilities are found at the CMR Building, although a subset of AC and MC capabilities reside in the TA-55 Plutonium Facility and other locations at LANL. (CMRR EIS, p. S-27.)

Describe AC MC capabilities at TA-55, CMR, and name the other sites and the capabilities.

Did the design engineers justify more and bigger? What is the reality of the calculations of required sq footage for the NF?

204-23 cont'd

CMR Alternative 1 – Questionable Alternative
Please define "feasible." A more refined timeframe must be stated. The current status of the CMR should be declared. How many wings are closed? What is the proposed square footage of the CMR that will be used? What is the proposed square footage of the CMR that will be used to support NF operations? Will current risk reduction activities continue under this alternative? If not, the impacts of not continuing these activities must be analyzed. Will the Lab still allow deferred maintenance to grow at the CMR under this alternative (as mentioned in National Nuclear Security Administration/Readiness in Technical Base and Facilities, FY 2011 Congressional Budget Pg. 160)?

Don't forget that the new, 200,000 square feet RULOB will be ready for operations in less than two years. Since continued use of CMR is now being considered any future work done there must be explained and analyzed.

CMR Alternative 2 – A Capability Study is Required

204-24

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204-24 A description of the current status of the CMR Building and its wings, including operational and risk reduction status, is provided in Chapter 2, Section 2.2, of the *CMRR-NF SEIS*. As discussed in this section, Wings 2, 3, and 4 are currently shut down and Wings 5 and 7 are currently being operated at reduced levels due to safety and seismic concerns. Wing 9 continues to perform hot cell operations. Under the Continued Use of CMR Building Alternative, the existing CMR Building would continue to be used for SNM operations until it was no longer considered safe to do so. Risk reduction activities would continue to be taken in the CMR Building as necessary, and the CMR Building would continue to receive routine maintenance and limited component replacement. RLUOB operations are considered in the analysis of the Continued Use of CMR Building Alternative in this *CMRR-NF SEIS*, as described in Chapter 2 and analyzed in Chapter 4.

NNSA disagrees with the commentor's recommendation that the use of fire-rated safes should be considered as an upgrade to the 60-year old CMR Building. Appropriate protection of SNM is only one of many upgrades that would be required at the aging CMR Building. Continuing to use the CMR Building as a Hazard Category 3 facility would not meet NNSA's stated need for action and it would prolong the use of an aging facility that NNSA has determined to be located over a fault trace resulting in significant seismic concerns. Based on public comments, Chapter 2, Section 2.7, has been revised to provide more information about various alternatives considered but not analyzed in detail as reasonable alternatives. Refer to the responses to comments 204-7 and 204-8 for more information.

As stated in the response to Comment 204-17, the cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. If the Modified CMRR-NF Alternative were chosen by NNSA and insufficient funding was available to start construction, NNSA would continue to operate the CMR Building as evaluated under the Continued Operation of CMR Building Alternative until the building can no longer be operated safely or until adequate funding was made available.

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Because continuing use of CMR is proposed, a capabilities study is needed for all programs using the CMR and PF-4. For each program, include floor space required, projected life of program, and cost for upgrades.

Should the old CMR Building continued to be used for nuclear operations then installation of new stand-alone safes for Special Nuclear Materials (SNM) should be considered. From DNFSB Los Alamos Report for Week Ending October 1, 2010:

> Plutonium Facility – Fire Protection: Six fire-rated safes have been installed in the Plutonium Facility basement. These safes have been qualified to survive bounding Plutonium Facility accident scenarios and have been credited with a damage ratio of zero, meaning that material contained in these safes do not contribute to accident source terms.

Using safes such as these in the old CMR Building should be analyzed as an option.

Better yet, removing some special nuclear materials SNM from the old CMR Building and maintaining it as a Hazard Category 3 facility instead of a Hazard Category 2 facility must be considered. This would make seismic upgrades less burdensome and expensive.

The current status of the CMR should be declared. How many wings are currently closed? What is the proposed square footage of the CMR that will be used? Will current risk reduction activities continue under this alternative? If not, the impacts of not continuing these activities must be analyzed. Will the Lab still allow deferred maintenance to grow at the CMR under this alternative (as mentioned in National Nuclear Security Administration/Readiness in Technical Base and Facilities, FY 2011 Congressional Budget Pg. 160)?

204-24 cont'd

All the proposed "extensive facility upgrades" must be listed and the impacts of these upgrades must be analyzed. The CMR Hazard Reduction (as mentioned in the National Nuclear Security Administration/ Readiness in Technical Base and Facilities, FY 2011 Congressional Budget Pg. 161) activities must be listed and the impacts of these activities must be analyzed. The CMR Risk Mitigation and Consolidation (as mentioned in the National Nuclear Security Administration/ Readiness in Technical Base and Facilities, FY 2011 Congressional Budget Pg. 160) activities must be listed and the impacts of these activities must be analyzed.

The 2004 CMRR ROD states, "However, the actual implementation of these decisions is dependent on DOE funding levels and allocations of the DOE budget across competing priorities." Please analyze the impacts of insufficient funding on estimated costs of the three proposed alternatives.

Please analyze the impacts of all current and proposed projects to extend the life of the CMR, including roofing work, exhaust fans, HEPA filters, structural and safety systems, and elevator repairs.

Please list the history of investments made in the CMR.

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Don't forget that the new, 185,000 square foot; RULOB will be ready for operations in less than two years.

Because the CMR alternative is being considered, the proposed work to be done in CMR must be stated and analyzed. The proposed work in other facilities must be stated and analyzed as connected activities.

The use of new stand-alone safes for Special Nuclear Materials (SNM) must be considered. From DNFSB Los Alamos Report for Week Ending October 1, 2010:

> Plutonium Facility – Fire Protection: Six fire-rated safes have been installed in the Plutonium Facility basement. These safes have been qualified to survive bounding Plutonium Facility accident scenarios and have been credited with a damage ratio of zero, meaning that material contained in these safes do not contribute to accident source terms.

Using safes such as these must be analyzed as an alternative.

State what Hazard Category is planned for the CMR. From the 2003 CMRR FEIS P. 2-4:

> As noted previously, NNSA and UC at LANL have restricted CMR Building operations and have reduced SNM quantities allowed within the Building. As a result, the CMR Building is currently operated as a Hazard Category 3, Security Category III facility. A Hazard Category 3 facility is designated as a nuclear facility for which a hazard analysis estimates the potential for only significant localized consequences.

Keeping the CMR as a Hazard Category 3 facility must be considered. This would make the seismic upgrades less onerous.

Cost is a factor in these decisions. From the 2003 CMRR Final EIS Pg. S-20:

> S.2.2 Alternatives Considered but Not Analyzed in Detail Extensive Major Upgrade to the Existing CMR Building for Use Beyond 2010: The proposal to complete upgrades to the existing CMR Building's structural and safety systems necessary to meet current mission support requirements for the suite of capabilities that exist in the building today for another 20 to 30 years of operations was considered and evaluated by DOE and UC at LANL in the 1998 to 1999 timeframe. This approach to maintaining these mission critical nuclear support capabilities would require a capital investment in excess of several hundred million dollars for just two of the eight CMR Building's wings. The costs of upgrading the entire structure would equal or exceed construction costs for the proposed CMRR Facility.

Now it is time to analyze this option in detail. This current estimate for the NF is now ~$5 Billion. Would this cost more than upgrading the CMR? What is the cost of upgrading just two wings of the CMR? What is the cost of upgrading the entire CMR?

204-24 cont'd

MDA C, potential release sites and the CMRR-NF.

204-25

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204-25 To construct the facilities analyzed in the *CMRR-NF SEIS*, acreage could be disturbed in several technical areas in addition to TA-55 as discussed in Chapters 2 and 4. Surveys have been conducted to identify potential release sites (PRSs), and no unidentified or unexpected soil contamination or buried media have been encountered. There are, however, known PRSs located within the affected technical areas (for example, Material Disposal Area C in TA-50), and the potential for contact with contaminated soil or other media would be appropriately considered throughout the construction process. For example, PRS-48-001 is being evaluated for potential impacts resulting from actions in the TA-48/55 laydown and concrete batch plant area. Proper precautions would be taken as needed to minimize the potential disturbance of this or other PRSs. As needed, actions such as appropriate documentation and contaminant removal would be taken by LANL Environmental Restoration staff in accordance with the 2005 Consent Order and other applicable requirements.

NNSA disagrees with the commentor's opinion about the need to stop preparation of the SEIS. "Suspected" contamination in the quoted statement in Comment 204-25 refers to soil that is either discolored or has a suspicious odor. In either instance, as stated, work would stop until further investigations could be performed. Sampling the site prior to excavation, records searches, and past sampling are used to determine areas of contamination at LANL. Information would be reviewed regarding all the activities locations that would be involved in the project, should NNSA decide to proceed.

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This draft SEIS should be withdrawn until:

- Soil and pore gas samples can be taken in affected areas for each of the alternatives considered where excavation and soil disturbances will take place.
- These samples are thoroughly analyzed and the results are posted, in the spirit of verification, to the publically available RACER database.
- The sampling locations where MCL exceeds standards are plotted on the SEIS "Affected Areas" map
- The effect on VOC plume migration of surfaces exposed during excavation is examined.

> This CMRR-NF SEIS evaluates the potential direct, indirect, and cumulative environmental impacts associated with the alternatives analyzed. (Pg. iv)
>
> 10.1 Provide information on any PRS by TA that may be encountered during construction and any plans for what steps will be taken in the event a PRS is encountered.
>
> MDA C (located east of CMRR Project areas) was investigated for potential impacts to planned and proposed actions in TA-55. No contamination from this PRS exists in the CMRR Project areas in TA-55 or nearby areas currently being considered under the planned and proposed actions. [33]

Not true! The RACER database shows VOCs in pore gas samples in TA-50. Is this where construction activity and relocation of the roadbed will take place as connected to the Modified CMRR-NF Alternative?

204-25 cont'd

The RACER database also reveals that there were no pore gas samples taken at the actual site of the excavation of the NF. For either excavation option the VOCs that are known to be in the pore gas of soil nearby (a few hundred yards) and can migrate relatively quickly, could currently be present at the proposed excavation site. Additionally the surfaces exposed during excavation could hasten the migration of the plume in that direction just as the canyon walls are known to do.
The dSEIS states;

> The 20-acre (8.1-hectare) site in TA-48/55 that would be required for the Modified CMRR-NF Alternative construction is mostly developed and previously disturbed land. There is a potential release site (PRS 48-001) that may affect a small portion of the TA-48 area proposed for use as a laydown area.
>
> During site development of the nearby area, if contamination is suspected, work would be stopped, characterization performed, and the necessary action and disposition completed. The extent of the potential release site is currently being evaluated; appropriate construction and operation measures would be

[33] CMRR-NF Project and Environmental Description Document Unclassified/Pre-decisional Information, p 26.

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> employed to minimize potential disturbance of contaminated soils or other effects on the potential release site. P. 22.

What does "suspected" mean? Work on site prep should be stopped now until samples can be taken and thoroughly analyzed.

If the extent of the potential release sites is still being "evaluated" then the SEIS must be withdrawn until that evaluation is complete and the results publically posted.

> Construction Impacts – Deep Excavation and Shallow Excavation Options—Under either construction option, acreage would be disturbed in several technical areas in addition to TA-55. Surveys have been conducted to identify potential release sites (PRSs), and no unidentified or unexpected soil contamination or buried media have been encountered (LANL 2010c).

What sort of surveys and where? There is no record in the RACER database of samples being taken and analyzed from the excavation site. The reference document cited to support this statement concerns impacts to spotted owls, not soil and pore gas sampling.

> There are, however, known PRSs located within the affected technical areas (for example, Material Disposal Area [MDA] C in TA-50), and the potential for contact with contaminated soil or other media would be appropriately considered throughout the construction process. For example, PRS-48-001 is being evaluated for potential impacts resulting from actions in the TA-48/55 laydown and concrete batch plant area. dSEIS p. 4-6.

The SEIS must be withdrawn until the results of evaluating PRS-48-001 and ALL other sites in the affected area can be incorporated into the Statement.

> Proper precautions would be taken as needed to minimize the potential disturbance of this or other PRSs. As needed, actions such as appropriate documentation and contaminant removal would be taken by the LANL Environmental Restoration Program in accordance with the 2005 Consent Order7 and other applicable requirements. dSEIS, p. 4-56

How would removal of an as yet unknown quantity of material affect the budget and timeline of the project? Where would the material go? What additional impacts would result from this process? The SEIS must be withdrawn until these connected actions are known and documented.

204-25 cont'd

dSEIS must analyze the impacts of air quality of the CMRR-NF project on Bandelier.
LANL is adjacent to the PSD [Prevention of Significant Deterioration] Class I Bandelier National Monument. There is no mention of any impacts to this Class 1 area in the SEIS. The only mention of PSD is in the glossary. PSD is designed to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historic value.

204-26

204-26 As a result of public comments on the *Draft CMRR-NF SEIS*, the air quality sections of Chapter 4, Section 4.3.4 and 4.4.4, of the *CMRR-NF SEIS* have been updated to indicate that, based on the air quality modeling done in support of the *CMRR-NF SEIS*, none of the alternatives would have an adverse impact on air quality at Bandelier National Monument.

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Volcanic eruption impacts must be analyzed.
Reference *Preliminary Volcanic Hazards Evaluation for Los Alamos National Laboratory Facilities and Operations Current State of Knowledge and Proposed Path Forward, Issued: September 2010, LA-14426*, states, "The integration of available information on the volcanic history of the region surrounding Los Alamos National Laboratory (LANL or the Laboratory) indicates that the Laboratory is at risk from volcanic hazards." [34]

204-27

This dSEIS must be withdrawn and reissued when all known seismic hazards are addressed.
We have learned that new seismic analyses are being conducted at the Lab. This dSEIS is certainly premature until current seismic investigations are concluded. Even if current seismic investigations are completed and the results are included in the final dSEIS, the public will have been denied the opportunity to comment on the results. Pushing ahead with the CMRR-NF project without having the seismic risks in hand is what led to the need of this dSEIS. This is an on-going problem. A renewed decision to proceed with the Nuclear Facility at LANL was made in 2008 even though it was known that new seismic information would change the underlying assumptions of that decision as the Record of Decision states:

> New information about seismic risks at LANL (set forth in the report Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory, 2007, LA–UR–07–3965) may change how hazardous materials are stored, operations are conducted, and facilities are constructed or renovated. NNSA is conducting a systematic review of LANL structures and operations in light of this information. This review, expected to be completed in about one year, will identify any necessary changes to address the new seismic information. NNSA will then implement the necessary changes to LANL facilities and operations based on the review's recommendations. (Record of Decision: Site-Wide Environmental Impact Statement for Continued Operation of Los Alamos National Laboratory, September 26, 2008)

DOE, NNSA, and LANS continue to roll the dice with the seismic risks at the CMRR-NF. If the seismic risks are understated, an earthquake could bring the Nuclear Facility down releasing its stock of plutonium into the environment. If the seismic risks are overstated, billions of dollars will be spent for no reason. Proceeding without knowing the exact seismic risks would represent a flagrant disregard of taxpayers' interests.

> Although project areas TA-3 and TA-55 have been mapped in detail for the presence of faults, areas showing no faulting on dSEIS Figure 3–5 do not necessarily represent an absence or lack of faulting. Large eastern and southern areas of LANL have not yet been mapped in detail for seismic hazards. Additionally, faults are only shown in areas where such faults are exposed or inferred. The end of a fault line on a map does not necessarily indicate

204-28

[34] Pg. vii, http://www.osti.gov/bridge/product.biblio.jsp?query_id=0&page=0&osti_id=991237&Row=0)

204-27 NNSA agrees that volcanic eruption impacts should be analyzed and has made revisions. In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapter 3 and 4 (Sections 3.5.1 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2011e).

204-28 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations as discussed in the response to Comment 204-5.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural

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> truncation of a fault, but may be indicative of the end of surface exposure or lack of evidence of a fault at that location. This scenario is common in urbanized areas or in areas where faults have been buried by younger sediments. Confirmation of the presence or absence of a fault at a particular site, that is, at the end of mapped fault lines, may require further site-specific detailed geologic investigations, even though mapping may already have occurred at that location. (Pg. 3-22)

It seems that the Lab infers liberally and maps when it is convenient. Steep topography on the Pajarito fault made field measurements difficult and the Rendija Canyon and Guaje Mountain faults have not been fully characterized or mapped. The Rendija and Guaje faults must be fully mapped. The inferred fault at TA-3 must be fully mapped. The original conclusions about the inferred fault under CMR were based on only 8 boreholes. Where is the trench across the inferred fault at CMR?

To address these increased seismic hazards, DOE now plans to excavate 250,000 cubic yards of earth under the proposed Nuclear Facility and fill the hole with concrete for the Deep Option. DOE must address the following questions: Is surrounding geology strong enough to support all that concrete? How much will the Nuclear Facility and all that concrete weigh? Has construction of a facility ever been done before on such an enormous concrete slab? If so, what were the results? Will a seismic event cause it to sink or shift? This dSEIS is analyzing the effects of this action, and this dSEIS should also examine the effects of removing it. Have these original design concerns been met?

> Design Concerns Arising from Ground Conditions - The existing properties of Qbt3L, coupled with its vertical proximity to the CMRR foundation grade and its lateral proximity to the slope of Two-Mile Canyon, have led to potentially significant issues for the design team and the PRT. The five design concerns are:
> · potential for static deflection (compression),
> · potential for hydro-collapse due to wetting,
> · potential for excessive movement of buttress due to dynamic slope instability,
> · inadequate resistance to dynamic sliding forces, and
> · seismic shaking and building response. (Kleinfelder 2010a, p. 2)

204-28 cont'd

This dSEIS must be withdrawn and not rereleased until all issues with the seismic modeling software used are addressed.
Basic assumptions concerning the safety and location of the Nuclear Facility were based upon seismic modeling software. It turns out that questions concerning the accuracy of one of these programs have arisen. The Defense Nuclear facilities Safety Board (DNFSB) stated:

> Seismic analysis and design of high-hazard Department of Energy (DOE) defense nuclear facilities requires evaluation of soil-structure interaction (SSI) effects between the building and its supporting soil. The computer program SASSI (A System for the Analysis of Soil-Structure Interaction) is used extensively for this purpose within the DOE complex, as well as in the commercial nuclear power industry. Recently, SASSI users have identified

204-29

requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97.600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option. A draft slope stability analysis has been prepared that indicated that global slope stability is not an issue for the Deep Excavation Option (LANL 2011a: LANL site, 028). If the Deep Excavation Option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed. See the response to Comment 204-20 for additional information regarding the two excavation options under consideration for the Modified CMRR-NF.

204-29 For seismic analysis and design of high-hazard DOE nuclear facilities, the computer program SASSI [A System for the Analysis of Soil-Structure Interaction] has been used for evaluation of soil-structure interaction (SSI) effects between a building and its supporting soil. CMRR-NF engineers are aware of the issues that have been raised by the DNFSB with respect to the SASSI computer code. Engineers performing the soil structure interaction analysis of CMRR-NF originally identified the technical issues associated with SASSI's subtraction method of analysis. For the SSI analysis of CMRR-NF, a study has been performed utilizing a representative model of the Modified CMRR-NF and site that compares the SASSI direct solution, subtraction method and modified subtraction method. Results of the study validate that the modified subtraction method provides results consistent with the direct solution

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> significant technical and software quality assurance issues with this software. In August 2010, the Los Alamos National Laboratory (LANL) published LA-UR-10-05302, Seismic Response of Embedded Facilities Using the SASSI Subtraction Method, identifying issues with the SASSI subtraction method, which is extensively used in DOE's design and construction projects. The Defense Nuclear Facilities Safety Board (Board) is concerned that these issues could lead to erroneous conclusions that affect safety-related structural and equipment design at DOE defense nuclear facilities. (April 8, 2011 Letter, DNFSB Chairman Peter S. Winokur to the Honorable Daniel B. Poneman, Deputy Secretary of Energy)

We know that SASSI was used for designing the NF because of this statement from the 2001 Probabilistic Seismic Hazards Analysis:

> For vertical motions, a site-specific 2D SASSI study for a CMRR layered profile performed by Costantino and Houston (2005) … (Probabilistic Seismic Hazards Analysis \ LOS ALAMOS-LANL\ UPDATED REPORT_FINAL.DOC\21-JUN-07\ Pg. 6-6)

The DNFSB is currently awaiting a DOE review of the quality of SASSI modeling results. Until the DOE review is complete and the DNFSB agrees with those results, this dSEIS must be put on hold.

204-29 cont'd

This draft dSEIS underestimates and misrepresents seismic hazards.
The draft statement used a value of 0.3 G as the peak ground acceleration value for the vertical plane, and not the value 0.6 G presented in the 2007 LANL Probabilistic Seismic Hazard Analysis. Design work has focused on 7.3 Richter scale earthquakes, but analogous earthquakes indicate that design should be increased to a minimum of 7.5. LANL scientists recommended further seismic studies in three key seismic reports written in 1995, 2007 and 2009. But those studies were not done. As a result, assumed values for six key parameters were inserted into computer programs to estimate the seismic hazard for the design of the proposed Nuclear Facility.

204-30

We incorporate by reference the report, *Public Comments of Robert H. Gilkeson, Registered Geologist, and Concerned Citizens for Nuclear Safety (CCNS) about the DOE 2011 draft Supplemental Environmental Impact Statement for the proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) at the Los Alamos National Laboratory (LANL) Technical Area-55 (TA-55) Robert H. Gilkeson, Joni Arends, June 28, 2011.* A new dSEIS should reflect the voluminous information therein.

204-31

The shallow construction option is not mature and must not be considered as an alternative until analysis of this option is complete.
It is inappropriate to consider the Shallow Construction Option in this dSEIS. All environmental impacts of the Shallow Option are based upon assumptions that are not defensible at this time. Any evaluation of the Shallow Construction Option at this time is just wishful thinking unsupported. As this dSEIS itself states:

204-20 cont'd

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results. Direct solution results are considered to be the benchmark solution. The modified subtraction method has been implemented for use on the CMRR-NF SASSI analysis. The DNFSB staff has evaluated the Seismic Design Plan and the Structural Design Plan in relation to DNFSB certification to Congress that its concerns regarding safety-class systems and seismic issued related to the CMRR-NF have been addressed. The DNFSB certified that relying on full implementation of commitments made by NNSA concerning safety-related processes, structures, systems, and components with regard to preliminary design, including design requirements and design processes, and final design, including development of design requirements into final design elements, that its concerns regarding the design of the CMRR were resolved (DNFSB 2009).

204-30 Based on an apparent typographical error in the 2007 PSHA Executive Summary (LANL 2007), the vertical peak ground acceleration for the CMRR-NF was incorrectly cited as 0.3 *g* instead of 0.6 *g* in the *Draft CMRR-NF SEIS*. This error has been corrected. This typographical error in the Executive Summary of the PSHA is not reflective of information presented elsewhere in the PSHA and was not used in the design of the proposed Modified CMRR-NF.

Design work has been performed in accordance with DOE Order 420.1B and its implementing standard, DOE Standard 1020-2002, with oversight and certification by DNFSB. (The 2009 DNFSB certification addressed seismic issues.) NNSA continues to work with DNFSB to ensure that the proposed CMRR-NF design meets with DNFSB expectations. Refer to the response to Comment 204-28 for more information related to seismic concerns.

204-31 The comments put forth in the referenced report have been responded to in this CRD. See responses to Comment letters 241 and 315.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

> The Deep Excavation Option is more mature, having undergone technical review by NNSA, NNSA's contractors, and the Defense Nuclear Facilities Safety Board. At this time, there is more uncertainty with the Shallow Construction Option. The Shallow Construction Option needs to be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis. (CMRR-NF SEIS, Pg. 1-13)

Most of the environmental impacts proposed in this SEIS for the Shallow Option end up being the same or similar to the Deep Option impacts. This is only speculation at this time.

Even if analyses of the Shallow Option are completed and the results are included in the final SEIS, the public will have been denied the opportunity to comment on these analyses, which is contrary to the intent of NEPA. This is unacceptable.

204-20 cont'd

Deep and shallow options could not be constructed with the same amount of electricity.
As further evidence that the Shallow Option has not been fully vetted, some construction options are listed with the same impacts, which cannot be the case. For instance the dSEIS states that electricity (megawatt-hours per year) for construction of both deep and shallow options is the same - 31,000 mWh/yr (CMRR-NF SEIS Table 2-1). This cannot possibly be correct since they are using electric batch plants for the Deep Option.

204-21 cont'd

Explain why LANL is still the best site for the Nuclear Facility.
The 2003 CMRR EIS was completed before the 2007 Probabilistic Seismic Hazard Analysis. One of the main requirements of DOE O 420.1b is to choose an appropriate site. It is not now clear that LANL is the appropriate site for the NF. Because of this, design overly-relies on the other requirements for defense in depth. Describe, in detail, how the design of the NF addresses the list of defense in depth requirements and the environmental impacts of these requirements. The specific DOE Order states:

> 3. REQUIREMENTS.
> b. Nuclear Facility Design.
> (1) Nuclear facility design objectives must include multiple layers of protection to prevent or mitigate the unintended release of radioactive materials to the environment, otherwise known as defense in depth. These multiple layers must include multiple physical barriers unless the basis for not including multiple physical barriers is documented in the DSA and approved by DOE.
> (2) Defense in depth must include all of the following—
> (a) choosing an appropriate site;
> (b) minimizing the quantity of material at risk;
> (c) applying conservative design margins and quality assurance;
> (d) using successive physical barriers for protection against radioactive releases;
> (e) using multiple means to ensure critical safety functions needed to—
> 1 control processes,
> 2 maintain processes in safe status, and

204-32

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204-32 The decision to construct a replacement facility for the existing CMR Building at LANL was made through the 2003 *CMRR EIS* (DOE 2003b) and the 2008 *Complex Transformation SPEIS* (DOE 2008b). The Probabilistic Seismic Hazards Analysis referred to by the commentor was available at the time the *Complex Transformation SPEIS* was being completed. The 2003 *CMRR EIS* also addressed construction and location alternatives and options for the CMRR Facility within LANL. The CMRR-NF is being designed consistent with DOE requirements for nuclear safety, including those in DOE Order 420.1B. Safety-related considerations such as design, construction, and operating parameters are subject to independent oversight by DNFSB. NNSA believes that LANL is still the appropriate site for conducting plutonium work, and that TA-55 is the appropriate place to consolidate that work at LANL. The CMRR-NF is being designed with defense in depth at the forefront of the design effort. The changes in the CMRR-NF design between 2003 and the current time reflect NNSA's commitment to safety and its determination to design a facility that will be able to operate safely and protect workers and the public from the unintended release of radioactive materials.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

3 confine and mitigate the potential for accidents with radiological releases;
(f) using equipment and administrative controls that—
1 restrict deviation from normal operations,
2 monitor facility conditions during and after an event, and
3 provide for response to accidents to achieve a safe condition;
(g) providing means to monitor accident releases as required for emergency response; and
(h) establishing emergency plans for minimizing the effects of an accident.
(3) Hazard category 1, 2, and 3 nuclear facilities must be sited, designed, and constructed in a manner that ensures adequate protection of the health and safety of the public, workers, and the environment from the effects of accidents involving radioactive materials release. (DOE O 420.1B Attachment 2, 12-22-05, p. I-2.)

The Nuclear Facility was not sited with defense-in-depth in mind. As a matter of fact, the location is so dangerous that design and construction need to make up for the risks at the site. It is unclear if that can happen.

204-32 cont'd

References must be given with sufficient detail that they can be thoroughly checked.
When a statement within the draft SEIS is referenced to a supporting document a shortened name is used and no page number is cited. A reviewer must use the index to know the name of the document(s). Even then, the search for verification is complex without a detailed citation like any high-school student is expected to be capable of including in scholarly research.

For instance, the reference "LANL 2011" is used 46 times in the dSEIS. Looking at the online reference documents, one will find that the reference document labeled "LANL 2011" is actually 24 separate documents. In some cases a reference points to a photocopied supporting document numbering several hundred pages without citing a section or page number. Since the photocopied document cannot be word-searched the entire document would have to be visually scanned by the reviewer in order to check the reference. Page numbers for the references must be given so that they can be checked in a timely manner in order to complete the review within the short comment period. For this reason the SEIS must be withdrawn, rewritten, and re-released.

Reference documents must be correctly cited and publically available at the time of the release of the draft SEIS.
A statement in the Draft SEIS that is about Operations Impacts references (LANL 2010c), which is about Biological Assessment Summaries and is not the correct reference. Here's the quote:

> Operations Impacts—Projected annual waste generation rates for operations at the Modified CMRR-NF and RLUOB are summarized in Table 4–34 (LANL 2010c), "LANL 200b" is not referenced in the Draft SEIS but is included in the supporting documents. (CMRR-NF dSEIS Pg. 4-58)

The (LANL 2010c) reference mentioned above is about Biological Assessment Summaries and is not the correct reference. The word "waste" is not in that document.

204-33

204-33 It is not necessary to provide page numbers for reference documents. In the *Final CMRR-NF SEIS*, for the convenience of the reader, subsections within the reference "LANL 2011" are provided.

To the extent practicable, NNSA made references available on the Internet, except where limited by copyright or security concerns. As with other elements of the public comment process, this was consistent with past practices for other LANL NEPA documents. In addition, the comment period was extended by 15 days and all late comments were considered in developing the *Final CMRR-NF SEIS*. Problems with links to references that may have been experienced during the public comment period were corrected as soon as they were identified. In addition, the references were placed in five DOE Public Reading Rooms in the area surrounding LANL and one in Washington, D.C., as identified in Chapter 9 of the *CMRR-NF SEIS* and the Notice of Availability for the *Draft CMRR-NF SEIS* (76 FR 24018) published on April 29, 2011. Refer to Section 2.2, NEPA Process, of this CRD for additional information.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

Following the official release of the Draft SEIS the Reference Documents were not available in their entirety. It was more than a week later before all of the documents were made available. The comment period should not commence until all the supporting material is available to the public.

The Draft SEIS is so capriciously written and so shoddily documented that the reviewer questions the seriousness of the Agency's attempt to comply with NEPA in their haste to rush through a Record of Decision.

204-33 cont'd

Tribal notes must be included.
Tribal notes, similar to the *Greater Than Class C* EIS, must be included in this dSEIS. As the GTCC EIS states:

> DOE and Tribal Representatives have been working cooperatively over the last decade to improve consultation and communication related to decision making. This is an ongoing dialog, and DOE is committed to formal and meaningful consultation and interaction, at the earliest practical stages in the decision-making process, consistent with DOE's American Indian and Alaska Natives Tribal Government Policy (DOE Order 144.1). (Pg. 1-48)

These Tribal Nations participated in the GTCC EIS consultation activities**:**

- Acoma Pueblo, Acoma, NM
- Cochiti Pueblo, Cochiti, NM
- Jemez Pueblo, Jemez, NM
- Laguna Pueblo, Laguna, NM
- Nambe Pueblo, Santa Fe, NM
- Pojoaque Pueblo, Santa Fe, NM
- Santa Clara Pueblo, Española, NM
- San Ildefonso Pueblo, Santa Fe, NM

The tribal text is included in text boxes in throughout the GTCC EIS and full narrative texts are provided in an Appendix. This CMRR-NF dSEIS must be withdrawn and re-leased after Tribal Notes are included.

204-34

Describe the current status of plutonium shipping.
It is clear that LANL scientists must integrate closely with the work to be performed in the CMRR and this is used as a justification for co-location. The precedent of successfully working with SNL, LLNL, NTS, PTX, etc has already been set.

Please describe the current status of Pu shipments. Are Pu samples shipped to other DOE nuclear complex sites? Are any of these shipments because samples are being analyzed offsite? Is Pu shipped for experiments at other facilities? Any and all shipments must be analyzed in the SEIS. Is shipment of Pu a required capability for NNSA, independent of CMRR? If so, why must the CMRR be co-located with PF-4? Will the Lab have larger capacity with the NF as opposed to shipping the samples offsite? Will the NF be safer than shipping these samples? Will the NF cost more than shipping these samples?

204-35

All impacts of NF construction on the Consent Order must be analyzed.
Cleanup of the existing mess must be the priority – not the new Nuclear Facility.

204-36

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204-34 Additional information has been added to Chapter 5, Section 5.7, Consultations with Agencies and Federally Recognized American Indian Nations, of the *Final CMRR-NF SEIS*. Tribal notes are not a required part of NEPA documents; however, they are a desirable addition to any NEPA analysis.

204-35 Shipments of actinides and other radioactive materials to and from LANL would occur as part of performing a variety of stockpile stewardship and other activities at multiple LANL facilities. The 2008 *LANL SWEIS* (DOE 2008a) addresses impacts from transporting these materials.

204-36 As addressed in Section 2.5, Cleanup and Waste Management, of this CRD, funding decisions on major Federal programs and projects at LANL, such as environmental restoration activities, are made by Congress and the President, and are beyond the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. However, NNSA does not consider compliance with the Consent Order optional and is not linking Consent Order compliance with decisions about constructing and operating the proposed CMRR-NF. NNSA intends to continue conducting the environmental restoration program at LANL regardless of whether it decides to construct and operate the proposed CMRR-NF as analyzed in the *CMRR-NF SEIS*. Closure of Material Disposal Area C and Material Disposal Area G will take place consistent with the Consent Order process, in accordance with decisions reached by NMED. For information on the annual progress of LANL's ongoing environmental restoration program, refer to LANL environmental surveillance reports, which can be accessed at http://www.lanl.gov/environmental/all/docs/reports/.

A minor realignment of Pajarito Road would be carried out as part of construction of the Modified CMRR-NF as described in Chapter 2, Section 2.6.2.1. The impacts of this realignment are included as part of the overall analysis of impacts in the *CMRR-NF SEIS*.

The commentor refers to the planned construction of a new transuranic waste staging area along the Pajarito Corridor at TA-63, to characterize and certify transuranic waste for offsite disposal. The new facility was addressed in the 2008 *LANL SWEIS* (DOE 2008a) and will replace a number of buildings and fabric domes at TA-54. Design work for the facility is ongoing. NNSA expects that transuranic waste generated at the CMRR-NF would be packaged at the CMRR-NF and characterized and certified at the new transuranic waste staging area at TA-63. Characterization and certification of transuranic waste could also take place at the CMRR-NF or another LANL or offsite location.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

DOE made a commitment to cleanup the legacy waste sites at LANL when it signed the Consent Order with the New Mexico Environment Department on March 1, 2005. The Order requires cleanup of certain sites by December 31, 2015. Analyze the impacts of construction activities for NF on cleanup activities, including those at the nearby Material Disposal Area C (MDA C).

- DOE proposes to realign Pajarito Road in order to accommodate the new NF. Impacts of this realignment must be included in this SEIS
- Impacts on possible excavation of MDA C must be analyzed as a connected action to the realignment.
- The closure plans for MDA C and MDA G have not been decided. How can the impacts to the closure plans of these, or any site, be known until the closure plan itself is known?
- Impacts on proposed waste operations at TA-63 must be analyzed.
- Explain how it is known that that all Consent Order milestones will be met while $5 billion is being spent on construction of the NF.

We request that construction on the NF not start until all requirements of the Consent Order are met.

204-36 cont'd

Present waste processing and disposal facilities are failing and must be analyzed as connected actions.
DOE must analyze impacts to all other facilities that are required to support operations at the NF. Uncertainties surround the current support facilities. For example,

- DOE recently postponed a new Radioactive Liquid Waste Treatment Facility because the estimated costs increased from $100 million to $350 million;
- DOE's plans for a 63-acre expansion for low-level radioactive waste have been delayed for years; Area G will be closed in 2015 under the Consent Order; and
- DOE proposed a new Transuranic Waste Facility (TRUWF) to replace operations at Area G, but subsequently withdrew the proposal.

DOE must fully analyze all alternatives, including no construction of the NF, if these facilities are not available.

From the Final Complex Transformation SPEIS October 2008 Summary Pg. S-38:

> S.3.4.1.2.1 Los Alamos Upgrade Alternative
> Los Alamos could support pit production requirements using existing and/or new facilities at TA-55, which is the current site for the Plutonium Facility (PF-4). The planned CMRR Facility would be located in TA-55. In addition, LANL has several existing and planned facilities, all of which are included in the No Action Alternative, capable of supporting plutonium operations, including: the Radioactive Liquid Waste Treatment Facility, the solid waste characterization and disposal site (in TA-54), the Sigma Building (in TA-03), the Radiochemistry Facility (in TA-48), a new radiography facility (in TA-55), and a new solid-waste staging facility.

These facilities are examples of facilities that must be included in this SEIS. Upgrades to the electrical system are connected actions and must be analyzed!

204-37

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204-37 As summarized in Section 2.5, Cleanup and Waste Management, of this CRD, the CMRR-NF and RLUOB would be designed, constructed, and operated to accommodate their projected waste volumes. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. The impacts associated with transportation of radioactive and nonradioactive wastes to offsite treatment or storage facilities have been estimated for all alternatives (see Chapter 4, Sections 4.2.13, 4.3.13, and 4.4.13). It is expected that waste transportation would occur using trucks, and standard and available types of containers (for example, drums, boxes) and shipping packages (for example, TRUPACT II).

Regarding the concerns expressed about LANL support facilities:

- DOE expects that RLWTF will be available to treat liquid wastes generated from various LANL facilities, using the existing capabilities of RLWTF or any future upgrades (DOE 2008a).
- Only a 63-acre portion of Area G containing Material Disposal Area G and other waste disposal and management capabilities would be closed consistent with remediation decisions reached by NMED for Material Disposal Area G pursuant to the 2005 Consent Order. Waste management operations would be transitioned to other LANL locations. For example, the transition of low-level radioactive waste disposal operations to Zone 4 within Area G was assessed in the 2008 *LANL SWEIS* (DOE 2008a). As noted in the *CMRR-NF SEIS*, low-level radioactive waste disposal may occur at Area G or at offsite DOE or commercial locations. (The *CMRR-NF SEIS* conservatively analyzes transportation impacts assuming all low-level radioactive waste is transported off site for disposal.)
- The CMRR-NF would be designed, constructed, and operated to accommodate the projected transuranic waste volumes for the facility. NNSA expects that required characterization and certification to meet transuranic waste disposal criteria would be performed at the planned new transuranic waste facility at TA-63. LANL began preliminary design of the new facility at TA-63 in October 2010, with completion targeted for the end of 2015. Impacts from transitioning transuranic waste support activities from TA-54 to TA-63 were addressed in the 2008 *LANL SWEIS* (DOE 2008a). Characterization and certification of transuranic waste could also take place at the CMRR-NF or another LANL or offsite location.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

Where will the wastes go?
To use DOE terminology: what is the "Path Forward?" Given the anticipated lack of disposal facilities for low-level radioactive, toxic, and hazardous waste at LANL, DOE must detail where that waste will be disposed, how it will be transported to an off-site facility, and the impacts to the communities along the route. Please describe the routes. DOE must specify how many shipments will occur by truck, train, or barge. Further, it must specify how many shipping containers will be needed, their costs, and whether they already exist or whether new containers will have to be developed and manufactured. WIPP closes in 2035. ***204-37 cont'd***

Any analysis must include DD&D of the existing CMR Building.
The 2004 Record of Decision (ROD) for the CMRR Project stated the existing CMR building would be DD&D'd in its entirety. However, the actual implementation of these decisions is dependent on DOE funding levels and allocations of the DOE budget across competing priorities, including construction of a new NF.

At the time it was built, the existing CMR was the largest building in New Mexico at 550,000 square feet. The 2004 ROD stated DOE would submit a work plan; but it does not specify to whom the work plan would be submitted. DOE must provide its DD&D work plan as part of its NEPA analysis. We will review the plan now in order to ensure that the DD&D activities will become part of the complete NEPA analysis. ***204-38***

Update impacts to endangered species.
Include impacts to the Mexican Spotted Owl. The effects on the spotted owl of the extremely high pore gas samples for many solvents in TA-50 core zone must be analyzed. ***204-39***

Update the status of compliance with all applicable federal, state and local statutes and regulations.
Include all international agreements, and required Federal and State environmental permits, consultations, and notifications.

- What portions of the NF will need to be RCRA permitted?

204-40

Intentional destructive acts must be independently evaluated.
Provide a reference to an analysis that substantiates that the probability of an airplane crash during overflight does not exceed 10-6/yr (i.e., one in a million) conservatively calculated.

There needs to be a rigorous independent review of this document by an independent professional organization in order to increase public confidence in the conclusions, which a new dSEIS should incorporate.

Provide an unclassified overview of the classified appendix, omitting details, but including at least answers to the following questions:
a. Does the appendix include consideration of attacks using aircraft?
b. In determining risks from terrorist attacks, does the appendix assume continued funding for government agencies other than NNSA, such as the Transportation Security Administration?
c. Does the appendix estimate the consequences of a successful terrorist attack? If so, ***204-41***

- As discussed in Chapters 2 and 4, adding to or modifying the existing electrical distribution infrastructure at LANL to support the requirements of the proposed CMRR-NF are analyzed in the CMRR-NF SEIS (for example, adding an electrical substation to TA-50).

204-38 To the extent known, impacts associated with DD&D of the existing CMR Building are analyzed in Chapter 4, Section 4.5.1, of the *CMRR-NF SEIS*. As indicated in the 2004 ROD associated with the *CMRR EIS* (69 FR 6967), the actual implementation of DOE's decision to DD&D the existing CMR Building would depend on DOE funding levels and allocations of the DOE budget across competing priorities. It should also be also noted that DOE is conducting a risk reduction effort at the existing CMR Building, which includes removal of some existing equipment and contamination. These efforts will reduce the levels of impacts from eventual DD&D of the CMR Building. As stated in Chapter 1, Section 1.7, of the *Draft CMRR-NF SEIS* in response to a similar scoping comment and as stated in the 2004 ROD, a work plan for DD&D would be prepared at the appropriate time; however, it is not required for NEPA analysis and is not available to be included as a part of this document. Detailed planning and analysis is not practical at this point because this work is potentially 10 or more years in the future.

204-39 Impacts on endangered species are evaluated in Chapter 4, Section 4.3.7.4, of the *CMRR-NF SEIS*. LANL is responsible for ensuring that all activities are reviewed for compliance with all applicable site plans that are found in LANL's *Threatened and Endangered Species Habitat Management Plan*, which was updated in April 2011 (LANL 2011b). The plan includes Areas of Environmental Interest for the Mexican spotted owl and the southwestern willow flycatcher. In addition to consultation with U.S. Fish and Wildlife Service (See Chapter 5, Section 5.7), owl surveys are done annually. No Mexican spotted owls have been observed in any potentially impacted areas where construction activities would occur, including in TA-50. In addition, the gas sampling referred to by the commentor is related to investigations associated with remediation of Material Disposal Area C in TA-50 and is not related to areas of TA-50 that would be effected by the proposed construction of the CMRR-NF at TA-55. Refer to Chapter 3, Section 3.7.4, of the *CMRR-NF SEIS*.

204-40 Chapter 5 of the *CMRR-NF SEIS* summarizes environmental requirements, agreements, and permits that relate to consolidation and relocation of mission-critical chemistry and metallurgy research capabilities at LANL. Compliance

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

have these potential consequences been brought to the attention of the President and Congress for consideration in decisions on nuclear weapons policy?

Provide a rigorous independent review of the classified appendix by an independent professional organization with appropriate clearances and include in the SEIS an unclassified summary of that assessment. Please include the identity of the organization and the amount budgeted for the review as an assurance that the review is independent and thorough.

What emergency response services are going to be available should a successful attack happen? What will be the impacts of an accident or attack during transportation? What emergency response services are going to be available should this happen?

204-41 cont'd

The JASON report on *"rare events" in the analysis of intentional destructive acts* must be considered.
Describe the Intentional Destructive Acts models used in this dSEIS. From the JASON Report:

> "Rare events" specifically refers to catastrophic terrorist events, including the use of a weapon of mass destruction or other high-profile attacks, where there is sparse (or no) historical record from which to develop predictive models based on past statistics…One problem is that rare events are rare. There will necessarily be little or no previous data from which to extrapolate future expectations in any quantitatively reliable sense, or to evaluate any model. In the extreme, how can the probability of an event that has never been seen or may never even have been imagined be predicted?... There is no credible approach that has been documented to date to accurately anticipate the existence and characterization of WMD-T threats…The combined urgency of the rare event threat, the difficulty of evaluating rare event models, and the complexity of social sciences problems has led some to advocate the suspension of normal standards of scientific hypothesis testing, in order to press models quickly into operational service. While appreciating the urgency, JASON believes such advice to be misguided… There is danger in premature model building and the use of such models, to the exclusion of careful data collection.

204-42

What was the probability of the rare event of Fukishima? What was the probability of the rare event of the Las Conchas Fire? Modeling for this type of event must be recognized for what it is, and not relied upon as the only way to assess risk.

204-43

All potential impacts from postulated accidents must be analyzed.
Recent Nuclear Facility procurement documents request equipment that can withstand 27,000 rem. The Request For Information projects a "Design Basis Accident Environmental Conditions" for "One (1) accident estimated at 27,000 rem over the 50-year life of the CMRR-NF facility." Describe this accident. All analyzed accidents must be described in detail.

- Impacts to tourism must be analyzed if there is an accident.

204-44

with applicable Federal and state environmental requirements is assessed in annual LANL site environmental reports, which may be accessed at http://www.lanl.gov/environmemntal/all/docs/reports/.

204-41 In response to similar comments, the text in the *Final CMRR-NF SEIS*, Appendix C, Section C.3.2, has been revised to more clearly reflect the consideration of an airplane crash into the CMRR-NF. The largest aircraft that is considered to have a conservative probability greater than 1 in 1 million per year of accidentally crashing into the CMRR-NF is a general aviation aircraft. References were added to support this conclusion, including the *DOE Standard: Accident Analysis for Aircraft Crash into Hazardous Facilities* (DOE 2006) and a site-specific technical evaluation of the potential for aircraft crashes (LANL 2011a).

As indicated in Chapter 4, Section 4.2.10.3 of the *CMRR-NF SEIS*, substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA considered a range of possible terrorist or intentional destructive acts and performed a detailed analysis of selected scenarios. Selected scenarios provide a reasonable range of events, including those with the largest expected impacts.

NNSA and DOE engage their own technically qualified staff and subject matter experts to prepare the SEIS along with qualified contractors. The analyses include the evaluation of accidents and intentional destructive act impact analyses. NNSA does not intend to pursue an independent external review of the analysis in the *CMRR-NF SEIS*.

NNSA has an extensive program related to preventing terrorist threats. This includes ongoing evaluations of facilities and security forces to prevent successful attacks. In evaluating intentional destructive acts, the probability of a given scenario occurring is not a factor in the analysis. Therefore, the programs and funding of other entities, such as the Transportation Security Administration is not a relevant factor. The intentional destructive acts appendix presents consequences projected to occur in the event of a successful attack. The results of these analyses will be reviewed and considered by NNSA in making its decision on the CMRR-NF and are shared, as appropriate, with senior Administration officials and Congress.

204-42 JASON is an independent scientific advisory group established in 1960 that provides consulting services to the U.S. government on matters of defense

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

- Impacts to property values must be analyzed.
- How would accidents at nearby facilities impact the Nuclear Facility and vice versa?

204-44 cont'd

Emissions from the utilities must be reexamined.
The NF is now twice the size than analyzed in the 2003 EIS. The environmental impacts of larger boilers must be analyzed. Are the boilers larger for the larger NF? Do we need a new RLUOB permit?

204-45

Analysis of the Pajarito Road re-alignment must be included in a new dSEIS.
This road re-alignment is currently a categorical exclusion. Instead, it should be analyzed in a new dSEIS as a "connected action."

204-46

This SEIS should be supplemented with annual updates.
Because the NF project may last over ten years, updates to this SEIS should be prepared annually, analogous to the LANL SWEIS yearbook. They should list the changes and/or accuracy of the estimates made in this SEIS, with public notification and the opportunity to request a paper copy.

204-47

Global climate change and drought.
Of course it is not just military threats that can deeply impact our national security, it can also be global climate change, with perhaps particular relevance for LANL at this very time. The Lab and the Los Alamos townsite have faced mandatory evacuation for the second time in two years due to wildfire. We comment on that threat later, but here speak on the question of the prioritization of national needs. Over the last five years the nation and world have faced an increasing number of natural disasters, including the Las Conchas Fire. While it's currently impossible to link one specific natural disaster to global climate change, there is increasing scientific thought that global warming is responsible for increasing the probability that such events occur.[35] If so, then global warming, in combination with a century plus of mistaken forestry management that suppressed all fires, threatens national security by threatening the Lab itself, and, in the extreme, public health could have been adversely affected had the Las Conchas Fire widely burned on LANL property.

In its Complex Transformation Record of Decision NNSA wrote in response to a public comment that the Supplemental Programmatic EIS had failed to address impacts on global warming:

> The SPEIS assesses the direct, indirect, and cumulative environmental impacts of the No Action Alternative and reasonable alternatives for the proposed action. The assessment of impacts includes, where appropriate, the direct and indirect contributions to the emission of greenhouse gases resulting from operation and transformation of the nuclear weapons complex. …

204-48

[35] See, for example, *Scientists: Extreme Weather Link 'Can No Longer Be Ignored'*, Steve Connor, The Independent UK, July 2, 2011 http://readersupportednews.org/news-section2/312-16/6469-scientists-extreme-weather-link-can-no-longer-be-ignored

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science and technology. A 2009 JASON report responded to a request by the U.S. Department of Defense to conduct an evaluation of the Nation's ability to anticipate the risk of rare events, specifically catastrophic terrorist events, including the use of a weapon of mass destruction or other high-profile attacks, where there is sparse (or no) historical record from which to develop predictive models based on past statistics (JASON 2009). Substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. Similarly, the details of the analysis of intentional destructive acts that was performed for the *CMRR-NF SEIS* cannot be disclosed.

204-43 Comment noted.

With respect to the Fukushima Daiichi Nuclear Power Plant accident, Section 2.8, Nuclear Accidents, of this CRD points out the large differences between the Fukushima Daiichi Nuclear Power Plant and the proposed CMRR-NF. The Fukushima Daiichi Nuclear Power Plant accident involved a very large earthquake followed by a tsunami, which affected the emergency cooling systems of a number of large boiling-water reactors at a nuclear power station. Neither the CMRR-NF nor the existing CMR Building contains nuclear reactors; the quantities of radioactive material that could be involved in a severe accident are orders of magnitude smaller than those at the Fukushima Daiichi Nuclear Power Plant reactors. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Appendix C of the *Final CMRR-NF SEIS*.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL and are historically common occurrences. The frequency of a large fire encroaching on LANL is estimated to be 1 in 10 years, as provided in the *2008 LANL SWEIS*, Appendix D (DOE 2008a). As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). NNSA does not consider the CMR Building to represent a significant risk due to wildfires because it is primarily constructed of noncombustible materials and is surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. The

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> Overall, the release of greenhouse gases from the nuclear weapons complex constitutes a miniscule contribution to the release of these gases in the United States and the world. Overall U.S. greenhouse gas emissions in 2007 totaled about 7,282 million metric tons of CO 2 equivalents, including about 6,022 million metric tons of CO 2…
>
> NNSA considers the potential cumulative impact of climate change in making decisions regarding its activities, including decisions regarding continuing the transformation of the nuclear weapons complex. Many of these decisions are applicable to the broad array of NNSA's activities, and therefore are independent of decisions regarding complex transformation. NNSA considered its contributions to the cumulative impacts that may lead to climate change in making the programmatic decisions announced in this ROD. These decisions will allow NNSA to reduce its greenhouse gas emissions by consolidating operations, modernizing its heating, cooling and production equipment, and replacing old facilities with ones that are more energy efficient. Many of these actions would not be feasible if NNSA had selected the No Action Alternative, which would have required it to maintain the Complex's outdated infrastructure. Federal regulations and DOE Orders require the Department of Energy to follow energy-efficient and sustainable principles in its siting, design, construction, and operation of new facilities, and in major renovations of existing facilities. These principles, which will apply to construction and operation of a UPF at Y-12 and the CMRR-NF at LANL, as well as to other facilities, include features that conserve energy and reduce greenhouse gas emissions.[36]

204-48 cont'd

We take issue with NNSA's statement that "the release of greenhouse gases from the nuclear weapons complex constitutes a miniscule contribution to the release of these gases in the United States and the world." But we recognize that other things NNSA and DOE do to help mitigate greenhouse house emissions. But we can't help but note the irony that new nuclear weapons facilities will be LEEDS certified as green bomb-making plants.

As a reminder of what the underlying intent is that requires this review of the CMRR-Nuclear Facility:

> The purposes of this Act [the National Environmental Policy Act] are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will

[36] Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement—Operations Involving Plutonium, Uranium, and the Assembly and Disassembly of Nuclear Weapons, NNSA, Federal Register / Vol. 73, No. 245 / Friday, December 19, 2008 / Notices, http://www.federalregister.gov/articles/2008/12/19/E8-30193/record-of-decision-for-the-complex-transformation-supplemental-programmatic-environmental-impact

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CMRR-NF would be at least as resistant to the effects of wildfire as the existing CMR Building. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF.

204-44 Summaries of accident scenarios, accident consequences, and accident risks are presented for the *CMRR-NF SEIS* alternatives in Chapter 4, Sections 4.2.10.2, 4.3.10.2, and 4.4.10.2. Analysis details are presented in Appendix C. None of the accidents evaluated for the Modified CMRR-NF or the CMR Building would result in doses to the public at the level cited by the commentor. However, as indicated in Section 4.2.10.2, seismically induced accidents at the 2004 CMRR-NF would result in large doses to the public and is the reason that facility design has been modified. Appendix C of the *Final CMRR-NF SEIS* has been revised to sections on the potential land contamination that could result in the LANL area following a severe earthquake (Section C.6), and to show the combined impacts from such an earthquake on all of the nuclear facilities in TA-55 (Section C.7).

204-45 Air quality impacts from construction of the CMRR-NF and operation of the CMRR-NF and RLUOB are addressed in Chapters 4, Sections 4.2.4.1 and 4.3.4.1, of the *CMRR-NF SEIS*. Air quality impacts from continued operation of the CMR Building and operation of RLUOB are summarized in Section 4.4.4.1. Although the largest air quality impacts would potentially result from excavation and construction activities, rather than facility operations, criteria pollutant concentrations would not exceed the most stringent standards during construction activities and transport of materials to and from the site. The analysis for the Modified CMRR-NF is different from that presented for the 2004 CMRR-NF. The Modified CMRR-NF includes the use of seven emergency backup generators and these represent the largest potential source of air pollutants. As shown in Table 4–20, calculated concentrations for criteria pollutants would be far below regulatory standards. No additional impact analysis is necessary, nor is a new permit for RLUOB required.

204-46 See the response to Comment 204-36 regarding realignment of Pajarito Road.

204-47 NNSA notes the comment. The 2008 *LANL SWEIS* addresses activities at the existing CMR Building and NNSA's intent to replace it with new capabilities. Activities pertaining to construction and operation of existing facilities (for example, the CMR Building) and new facilities (for example, RLUOB, a new prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man…[37]

This will fall on deaf ears, but how we wish that the money invested into the Nuclear Facility were redirected into combating global climate change instead, which could circle back to contributing to the physical safety of the Lab itself. But even more important than the ~$6 billion put into CMRR construction will be LANL's long-term deeper entrenchment into nuclear weapons programs that the Nuclear Facility will catalyze. We believe this will harm LANL, and therefore the nation, in the long run through opportunities missed.

Last December University of Arizona scientists published a major study that concludes that the American West may be entering a prolonged drought.[38] At the same time the CMRR project requires 16 million gallons of water each year for its operation. This calls into question whether it's appropriate to use precious water resources to expand nuclear weapons production at the possible expense of regional communities and the environment. It further calls into question whether expanded nuclear weapons production at Los Alamos is feasible given a possible long–term drought and rising climate warming punctuated with catastrophic forest fires, given that LANL and the Los Alamos townsite have had to be hurriedly evacuated twice in eleven years. Given that the Nuclear Facility is slated to operate until 2075 a new dSEIS should analyze the effects that possible climate change and prolonged drought may have on its operations.

A New dSEIS should analyze what effects long-term drought and climate warming might have on CMRR-Nuclear Facility operations.

It's possible, but still not yet known, that the Las Conchas Fire and the 2000 Cerro Grande Fire, in combination with forestry thinning and other fire preventative measures at the Lab, have essentially fireproofed LANL for now (however, countervailing that is the apparent fact that the Las Conchas Fire burned through substantial portions of the Cerro Grande Fire scar). The CMRR-Nuclear Facility is slated to be operational until 2075. A new dSEIS should analyze the effects that long-term drought and climate warming might have on CMRR-Nuclear Facility operations.

The methodology used for studying wildfires should be included in this analysis. Of particular importance would be an examination of what conditions permitted some of the same areas near the Lab to burn twice in the last eleven years and how effective wildfire mitigation efforts are in this increasingly dry climate.

204-48 cont'd

How would the Nuclear Facility be secured in the event of an overwhelming wildfire?

204-49

[37] The National Environmental Policy Act of 1969, as amended, Sec. 2 [42 USC § 4321], http://ceq.hss.doe.gov/nepa/regs/nepa/nepaeqia.htm
[38] "A 1,200-year perspective of 21st century drought in southwestern North America," C.A. Woodhouse et al, http://www.pnas.org/content/107/50/21283.full

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CMRR-NF, if constructed), the transition to new facilities, and the disposition of the existing CMR Building are being addressed within framework of the annual *LANL SWEIS* Yearbooks. The current yearbook can be accessed at http://www.lanl.gov/environment/nepa/sweis.shtml.

204-48 NNSA acknowledges the commentor's concerns that climate change may increase the frequency of wildfires and decrease the availability of water. In response to public comments, Chapter 3, Section 3.4.4, of the *Final CMRR-NF SEIS* has been revised to include a description of the types of environmental changes that could occur in the southwestern United States due to climate change. A discussion of potential impacts that could result at LANL from climate change and that addresses water usage has been added to Chapter 4, Section 4.1.

The CMR Building and the TA-55 Plutonium Facility were not included in the 2008 *LANL SWEIS* as facilities that present a significant risk due to wildfires because these facilities are largely constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. The CMRR-NF would be at least as resistant to the effects of wildfire as the existing CMR Building. Therefore, even if the frequency of wildfires is increased by global climate change, these facilities would not be directly affected. Chapter 4, Sections 4.2.4.2, 4.3.4.2, and 4.4.4.2 present the impact analyses associated with greenhouse gases. As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

204-49 The *CMRR-NF SEIS* includes analyses of potential accidents and their consequences involving the CMRR-NF or CMR Building, including the impacts of a large facility-wide fire that engulfs the entire facility. The results of the analysis are presented in Chapter 4 of the *CMRR-NF SEIS* and the details of the analyses, including assumptions about accident frequencies, are presented in Appendix C. As discussed in the response to Comment 204-43, wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. In accordance with DOE

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The effects of a very large fire must be examined in a new dSEIS. The Las Conchas fire is reported to be the largest documented fire in New Mexico history. A new dSEIS must consider the possibility that another fire may occur burning Lab property. How would the Nuclear Facility be secured in the event of an overwhelming wildfire?

What are the consequences of power transmission lines or transformers going down or burning during a wildfire (or serious seismic event) resulting in loss of power to the CMRR-NF? How long will backup generators in the Central Utility Building run without being resupplied with fuel or maintained? Are these backup generators diesel engine powered? How long will the engine's air filters remain unclogged in the presence of particulates in smoke as experienced during the Las Conchas and Cero Grande Fires?

204-49 cont'd

Given the wildfires is Los Alamos the right location for the Nuclear Facility and expanded nuclear weapons operations?

At the time of this writing it is estimated that the direct cost to combat the Las Conchas Fire is over $20 million, and the fire is still burning. The long-term costs to remediate the area may top $1 billion. Is Los Alamos the right location for the Nuclear Facility and expanded nuclear weapons operations if at some point in the future the funds to protect such a facility from the consequences of catastrophic wildfires are no longer available?

- End of Comments -

Thank you for you consideration,

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Executive Director

Scott Kovac
Research and Operations Director

John Witham
Communications and IT Director

CC: John Tegtmeier, CMRR SEIS Document Manager
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requirements such as DOE Order 420.1b, the CMRR-NF would be designed, constructed, and operated using physical and administrative controls to prevent or mitigate the unintended release of radioactive materials to the environment. Design features would include such items as backup diesel-powered generators; heating, ventilation, and air conditioning systems with standard dust-type filters or specialty filters, including high efficiency particulate air filters; fire suppression systems and fire barriers; and other facility health, safety, and security equipment as required and appropriate. Safety-related issues pertaining to the CMRR-NF and other nuclear facilities at LANL are subject to oversight by DNFSB. A summary of emergency preparedness and security provisions at LANL is provided in Chapter 3, Section 3.11.6, of the *CMRR-NF SEIS*. Refer to the response to Comment 204-32 for more information.

Commentor No. 204 (cont'd): Jay Coghlan, Executive Director Nuclear Watch New Mexico

Attachment 1

Excerpts from "THE ESSENTIALS OF NEPA" by Wildlaw.org

Under NEPA, an EA or EIS must include a review of the environmental impacts from all reasonable alternatives. It is the duty of the agency to develop and analyze the alternatives to the proposed action. The agency does not have to look at every conceivable alternative, only those reasonable ones that will meet the same goals and objectives of the proposed one. Also, the existence of a reasonable, but unexamined, alternative that is sufficiently similar to another alternative that the agency did analyze will not void the agency's NEPA analysis. However, the existence of only one reasonable alternative that the agency failed to look at will void the agency's decision…

"The alternative section is 'the heart of the environmental impact statement,' 40 C.F.R. 1502.14; hence, '[t]he existence of a viable but unexamined alternative renders an environmental impact statement inadequate.' *Citizens for a Better Henderson v. Hodel*, 768 F. 2d 1051, 1057 (9th Cir. 1985). While the practicalities of the requirement are difficult to define, NEPA provides that all agencies of the Federal Government shall, to the fullest extent possible, '[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.' 42 U.S.C. 4332(2)(E). Whether a particular EIS has met this demand can best be determined by its purpose, which is to 'ensure that federal agencies have sufficiently detailed information to decide whether to proceed with an action in light of potential environmental consequences, and [to] provide the public with information on the environmental impact of a proposed action and encourage public participation in the development of that information.' *Kunzman*, 817 F. 2d at 492; *see also Citizens for a Better Henderson*, 768 F. 2d at 1056.

"As a result an agency must look at every reasonable alternative, with the range dictated by the 'nature and scope of the proposed action,' *Block*, 690 F.2d at 761, and **'sufficient to permit a reasoned choice.'** *Methow Valley Citizens Council v. Regional Forester*, 833 F. 2d 810, 815 (9th Cir. 1987), *rev'd on other grounds sub nom. Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989)."

A particularly instructive case is *Friends of the Bitterroot, Inc. v. U.S. Forest Serv.*, No. CV-90-76-BU, 25 E.L.R. 21186 (D. Mt. 1994). There, even though the Forest Service identified and considered seven alternatives, the court held that the Forest Service failed to comply with NEPA because the agency failed to consider just one additional reasonable alternative, namely an alternative to protect roadless areas. The agency claimed that such an alternative would not further the purposes of the proposed action, but the court disagreed. The court held:
"In Count II of their complaint, as amended, plaintiffs contend the Trail Creek EIS fails to adequately analyze all reasonable alternatives, including a less environmentally damaging alternative that would exclude logging and road building activity in existing roadless areas within the Beaverhead National Forest. Plaintiffs maintain the EIS should have addressed an alternative exempting the Beaver Lakes roadless area from the timber sale in order to preserve that area's value as secure wildlife habitat. In response,

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defendants assert the alternative would not have met the management goals, standards, and objectives of the Beaverhead National Forest Plan. Defendants further maintain the development of such an alternative would not have added any new information to the EIS.

"NEPA requires an EIS provide information in detail and consider every reasonable alternative to a proposed action. *Citizens for a Better Henderson*, *supra*, 768 F.2d at 1057; see 42 U.S.C. 4332(2)(c)(iii). An agency's range of alternatives is reviewed under a 'rule of reason' standard that 'requires an agency to set forth only those alternatives necessary to permit a reasoned choice.' *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982) ('The touchstone for [a court's] inquiry is whether an EIS' selection and discussion of alternatives fosters informed decisionmaking and informed public participation.'). Additionally, NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered or which have substantially similar consequences. *Northern Plains Resource Council v. Lujan*, 874 F.2d 661, 666 (9th Cir. 1989). As a result, an agency's consideration of alternatives is sufficient if it examines an appropriate range of alternatives, even if it does not consider every available alternative. *Headwaters, Inc. v. Bureau of Land Management*, 914 F.2d 1174, 1181 (9th Cir. 1990).

"In the case sub judice, the Forest Service examined seven alternate courses of action with respect to the Trail Creek project: six 'action' alternatives (Alternatives B, C, D, E, F, and G) and one 'no action' alternative (Alternative A). The 'action' alternatives proposed timber harvesting in varying locations, amounts, and methods in the Trail Creek area. Moreover, the action alternatives all called for varying degrees of timber harvesting in the Beaver Lakes roadless area.

"Defendants maintain the plaintiffs' preferred alternative 'would not have met the management goals, standards, and objectives defined in the Beaverhead National Forest by the Beaverhead Forest Plan.' Specifically, defendants maintain that 'because the management decisions to harvest timber in those areas have already been made at the Forest Plan level it did not need to be revisited.'

"The fact the Beaverhead Forest Plan designates certain land as suitable for timber management does not, however, obligate the Forest Service to proceed with the timber harvesting, nor does it preclude the Forest Service from exercising its discretion to consider other courses of action. Accordingly, to the extent defendants maintain an alternative aimed at preserving the Beaver Lakes roadless area would be 'pointless,' based upon the goals of the Beaverhead Forest Plan, the court concludes defendants' summary judgment motion is not well taken. **Defendants' position is contrary to NEPA's underlying tenet, i.e., that agencies consider all reasonable alternatives so as to ensure an EIS fosters informed decision making.** See *Idaho Conservation League v. Mumma*, *supra*, 956 F.2d at 1519-20.

"The Forest Service cannot deny there is some benefit to be derived from considering an alternative that preserves the Beaver Lakes roadless area. Plaintiffs, as well as the Montana Department of Fish, Wildlife & Parks, whose considerable expertise in the area of wildlife management is undisputed, expressed concerns that preservation of the Beaver Lakes roadless area warranted full consideration in the Trail Creek NEPA

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process given the area's high security value for wildlife. Moreover, plaintiffs have alleged the roadless areas provide wildlife corridors essential for maintaining the biological diversity in the Northern Rocky Mountains.

"Given the contentious and long-standing debate in the State of Montana regarding the preservation of roadless lands and wilderness designation, the court concurs with plaintiffs' assertion that the NEPA process would have been properly serviced by development of an action alternative that preserved roadless lands in the Trail Creek area. Such an alternative would have afforded the opportunity for scientific and public participation and debate regarding the delicate balance between preserving natural resources and timber management.

"Accordingly, the EIS' failure to address an alternative preserving existing roadless lands in the Trail Creek area renders compels this court to REMAND this matter for further administrative proceedings." – End of excerpt - http://www.wildlaw.org/Eco-Laws/nepa-txt.html

Bolded emphases added that form the skeleton of our argument (and case law) that NNSA has failed to provide a credible range of reasonable alternatives as required by NEPA.

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Attachment 2

Additional Reasonable Alternatives that a new dSEIS should analyze

Nuclear Watch New Mexico's preferred alternative:
Alternative #4 (sequential from the three so-called alternatives that NNSA presented in the flawed dSEIS)

- Do not build the Nuclear Facility.
- Decontaminate and demolish the old CMR Building.
- Consolidate CMR missions in the Rad Lab and PF-4.

Alternative #5

- Do not construct a replacement facility to house the capabilities planned for the CMRR-NF.
- Do not continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building.
- Install SNM safes
- Further consolidate operations into existing facilities, particularly the new 200,000 square feet Rad Lab and PF-4.

Alternative #6

- Do not construct a replacement facility to house the capabilities planned for the CMRR-NF.
- Do not continue to perform analytical chemistry, material characterization, and actinide research and development activities in the old CMR Building.
- Consolidate CMR missions at the Rad Lab and PF-4.
- Build an SNM vault at TA-55.
  - This vault would free up floor space at PF-4 and CMR.
  - This vault would help de-inventory CMR and PF-4.
  - It will provide for enhanced safe and secure storage of special nuclear materials.

Additional Alternative #7

- Do not construct a replacement facility to house the capabilities planned for the CMRR-NF.
- Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, but make extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.
  - All the proposed "extensive facility upgrades" must be listed and the impacts of these upgrades must be analyzed.
  - The CMR Hazard Reduction (as mentioned in the National Nuclear Security Administration/ Readiness in Technical Base and Facilities, FY 2011 Congressional Budget, p. 161) activities must be listed and the impacts of these activities must be analyzed.

204-7 cont'd

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- The CMR Risk Mitigation and Consolidation activities (as mentioned in the NNSA/ Readiness in Technical Base and Facilities, FY 2011 Congressional Budget, p. 160) must be listed and their impacts analyzed.
- Analyze the impacts of all current and proposed projects to extend the life of the CMR, including roofing work, exhaust fans, HEPA filters, structural and safety systems, and elevator repairs.

• Build an SNM vault at TA-55.
• Further consolidate operations into existing facilities, particularly the new 180,000 square feet Rad Lab and PF-4.

204-7 cont'd

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Attachment 3

Additional Background on the CMRR-Nuclear Facility and

Expanded Plutonium Pit Production

NNSA must justify why a ~$5 billion new Nuclear Facility is needed. We maintain that the Nuclear Facility has always been about directly supporting expanded pit production. For a current example, from NNSA's own FY11 Stockpile Stewardship and Management Plan (SSMP):

> **Existing Los Alamos plutonium facilities** are not sustainable and **do not provide an inherent manufacturing capacity sufficient for the range of possible future scenarios…**
> Path Forward…
> • Complete the design and begin construction of the Chemistry and Metallurgy Research Replacement **Nuclear Facility** at Los Alamos (a facility that conducts plutonium research and development and provides analytical chemistry and materials characterization to all plutonium programs such as surveillance, manufacturing, and plutonium disposition.) Plan and program to complete construction no later than 2020, and **ramp up to full operations in 2022**.
> • **Increase pit processing capacity and capability at the adjoining PF-4** (part of the main plutonium facility) at Los Alamos to demonstrate pit reuse by 2017 and manufacturing by 2018-2020. **Plan and program to ramp up to a manufacturing capability of up to 80 pits per year in 2022.** Complete required investment in PF-4 infrastructure and waste processing capabilities in time to support expected plutonium capability in 2022.[39]

Concerning whether LANL's plutonium facilities are sustainable, we agree that the old CMR Building is not, at least for operations with Hazard Category 2 special nuclear materials (SNM). However, not only is PF-4 clearly sustainable, but it has in fact already been retrofitted with additional glovebox lines and equipment to achieve expanded production capability of up to 80 plutonium pits per year, as evidenced by the following:

204-3 cont'd

> **LANL 08 Performance Evaluation Report**
> **Pit Manufacturing Equipment**
> **Measure 1.13 Build Six New W88 Pits & Install Equipment in FY 2008 to increase Pit Capacity to 80 Pits per Year by the Operational Date of a CMRR-Nuclear Facility (Incentive/Base)**
> **Expectation Statement:**
> Build six new W88 pits and install equipment in FY 2008 to increase pit capacity to 80 pits per year by the operational date of a CMRR-Nuclear facility.
> **Completion Assessment:**

[39] NNSA FY11 SSMP, p. 23-24, http://www.nukewatch.org/importantdocs/resources/Stockpile_Stewardship_and_Management_Plan_2010.pdf (parenthesis in the original, bolded emphasis added)

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> LANS [Los Alamos National Security, LLC] has submitted completion evidence for award of full fee. NNSA has validated appropriate and timely completion.[40]

All that is lacking for the desired "range of possible future scenarios," that is "to ramp up to a manufacturing capability of up to 80 pits per year in 2022," are the expanded SNM materials characterization and analytical chemistry capabilities needed to directly support expanded pit production. This is where the CMRR NF comes in. But while various high-level documents have blessed construction and operation of the CMRR NF, none have approved expanded plutonium pit production. The 1999 LANL Site-Wide Environmental Impact Statement set that level at 20 pits per year. Since that time, in one form or the other, the Modern Pit Facility EIS, the Complex 2030 Programmatic EIS, the 2008 LANL Site-Wide EIS, and the Complex Transformation Supplemental PEIS have all set out to formally expand plutonium pit production, but in each case failed to do so.

For there to be truly impartial NEPA review without predetermination there must be analysis of the fundamental need of the Nuclear Facility given that: 1) there has been no decision to expand beyond the currently approved production rate of 20 pits per year; and 2) there is no foreseeable decision to do so anytime soon. In effect, NNSA has predetermined that there will be expanded plutonium pit production (see SSMP above), which in turn predetermines that the Nuclear Facility is necessary. A new draft SEIS should specifically examine the likelihood that there will be a formal decision to expand pit production, and the need for the Nuclear Facility in the absence of such a decision.

204-11 cont'd

A capabilities study of LANL's plutonium infrastructure is required. Some programs currently performed in PF-4 are scheduled to last for only a few more years. The ARIES and the MOX programs, for instance, are due to be completed by 2015, thus freeing up some floor space. Given that plutonium pit production is not being expanded (nor is likely to be expanded), there should again be rigorous review of whether the Nuclear Facility is truly needed and analysis of the feasibility of relocating old CMR missions to PF-4 and the Rad Lab while not building the Nuclear Facility. An update is needed to a 1997 analysis of "Alternatives for Increasing the Nuclear Materials Processing Space at Los Alamos for Future Missions." Please update the tables that show the floor space requirements for each program and what facility could be used for which program and operation. Please update this report and include a revised table in a new dSEIS analogous to this 1997 table below.

[40] LANL 08 Performance Evaluation Report, NNSA, http://www.doeal.gov/laso/GeneralDocs/FY%202008%20Performance%20Evaluation%20Report%20Final.pdf (bolded emphases added)

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Table 1. Category 1 Laboratory Space Requirements.

	Present PF-4	Future PF-4	Future CMR	Change
DP-Programs				
Pit Fabrication - General	11,400	11,500	2,200	2,300
Pit Fabrication - Disassembly	0	0	1,000	1,000
Pit Fabrication - Assembly	0	3,100	0	3,100
Pit Fabrication - Radiography	0	700	0	700
Pit Surveillance	2,300	0	4,500	2,200
Pu-238 Heat Sources & Recovery	6,000	6,000	0	0
Stockpile Stewardship Programs	2,300	2,300	0	0
Special Recovery Line	700	0	1,200	500
Actinide Research & Development	3,400	3,400	1,000	1,000
Non-DP Programs				
Pu-238 Heat Sources & Recovery	3,000	3,000	0	0
Neutron Source Mat'ls Recovery	800	800	0	0
Fissile Materials Disposition - ARIES	1,000	1,500	0	500
Fissile Materials Disposition - MOX	3,000	3,000	0	0
EM Technology Support	800	0	0	–800
Non-Proliferation Technologies	0	0	0	0
Support Functions				
Aqueous and Pyro Recovery	13,400	13,400	0	0
Mat'ls Management and Rad. Control	4,400	4,400	2,000	2,000
Waste Management	2,400	2,400	1,200	1,200
Analytical Chemistry - Metallography	4,700	2,600	1,500	–600
Contingency Space	0	1,500	700	2,200
Totals	59,600	59,600	15,300	15,300

Alternatives for Increasing the Nuclear Materials Processing Space at Los Alamos for Future Missions *Author(s):* Drew E. Kornreich & Nelson S. DeMuth, April 25, 1997, http://www.fas.org/sgp/othergov/doe/lanl/lib-www/la-pubs/00326510.pdf.

Updated needed mission floor space requirements must to take into account the fact that the Rad Lab is nearly complete for operations. The table below from the 1997 study indicates that the Rad Lab can indeed absorb much of the old CMR Building's operations.

Nuclear Watch New Mexico closes by again repeating that between the Rad Lab and the fact that SNM materials characterization has already been relocated to PF-4 that the CMRR-Nuclear Facility is not needed and should not be built. PF-4 can and should be reconfigured as other missions are terminated to accept the analytical chemistry mission as well. This would conserve taxpayers' money and is more consistent in progress toward a future nuclear weapons-free world.

204-11 cont'd

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Commentor No. 204 (cont'd): Jay Coghlan, Executive Director
Nuclear Watch New Mexico

Table 6. Future Light Laboratory and Office Space Requirements for CMR and TA-55.

	Req'd. Sq. Ft.	Total	Currently Avail.	Deficit
Light Lab. Space Requirements for CMR				
Cold Lab. For Dislocated TA-55 Functions	1,400			
Cold/light Lab. For Analytical Chem. Capacity	4,000			
Light Lab. Missions in Wing 2	6,000	**11,400**	6,000	**5,400**
Light Lab. Space Requirements for TA-55				
Cold Laboratory	21,300	**21,300**	12,200	**9,100**
Office Space Requirements for CMR	22,000	**22,000**	0*	**22,000**
Office Space Requirements for TA-55				
Office	66,000	**66,000**	44,600	**21,400**

*Future offices will not be next to laboratories.

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Commentor No. 205: Don Hancock
Southwest Research Information Center

SOUTHWEST RESEARCH AND INFORMATION CENTER
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June 28, 2011

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
DOE/NNSA/LASO
3747 West Jemez Rd.
TA–3 Building 1410
Los Alamos, New Mexico, 87544 VIA ELECTRONIC MAIL

RE: Comments on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory (CMRR-NF, DOE/EIS-0350-S1)

Dear Mr. Tegtmeier:

Southwest Research and Information Center (SRIC), a 40-year-old nonprofit organization with more than 35 years experience in working on nuclear issues, submits these comments in response to the Department of Energy (DOE) National Nuclear Security Administration (NNSA) Notice of Availability (NOA). 78 *Federal Register* 24018 (April 29, 2011). These comments are in addition to letters from SRIC and others during the comment period, and oral testimony provided at the Albuquerque hearing on May 23, 2011. DOE must respond to these comments and all of the previous ones, as well as all other comments from other organizations and individuals.

The CMRR-NF Draft Supplemental Environmental Impact Statement (DSEIS) is fatally flawed legally, as a matter of public policy, and technically. The DSEIS does not provide an adequate basis for a final EIS. Therefore, the SEIS process must stop, and NNSA must start over with a new EIS process.

1. The DSEIS is the wrong document. DOE/NNSA must instead begin a new EIS process. On February 3, 2004, then NNSA Administrator Linton Brooks issued the Record of Decision (ROD) for the CMRR Project, based on the Final EIS. The decision was to implement: ***205-1***

> "the construction and operation of a new CMRR facility within TA-55 at LANL. The new CMRR facility would include two buildings (one building for administrative and support functions, and one building for Hazard Category 2 SNM laboratory operations), both of which would be constructed at above ground locations (construction option 3). The existing CMR building would be decontaminated, decomissioned and demolished in its entirety (disposition option 3)." 69 *Federal Register* 6972 (February 12, 2004).

205-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that a supplement to the *CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

As described in Chapter 1, Section 1.1 of the *CMRR-NF SEIS*, five alternatives were analyzed in the November 2003 *CMRR EIS* (DOE/EIS 0350) (DOE 2003b): (1) Alternative 1 (the Preferred Alternative): Construct a new CMRR Facility at Technical Area 55 (TA-55); (2) Alternative 2 (Greenfield Site Alternative): Construct a new CMRR Facility at TA-6; (3) Alternative 3 (Hybrid Alternative at TA-55): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-55 and continue use of the CMR Building; (4) Alternative 4 (Hybrid Alternative at TA-6): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-6 and continue use of the CMR Building; and (5) No Action Alternative: Continue use of existing CMR Building – no new building construction. The Preferred Alternative (Alternative 1) was selected for implementation in a 2004 ROD (69 FR 6967) for the *CMRR EIS*. In addition, in the 2008 ROD for the *Complex Transformation SPEIS* (73 FR 77644) NNSA reaffirmed the decision to construct and operate the *CMRR-NF* at LANL.

In addition, Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, describes alternatives considered but dismissed from detailed analysis. These alternatives are: (1) alternative locations outside LANL; (2) extensive upgrades to the existing CMR Building; and (3) moving capabilities to other LANL facilities. For the reasons described in Section 2.7, these alternatives are not being revisited in the *CMRR-NF SEIS*; rather, the SEIS tiers from the previous decisions made in the ROD for the 2003 *CMRR EIS* and the 2008 *Complex Transformation SPEIS* and examines a more limited set of alternatives. Refer to Section 2.11, Alternatives considered, of this CRD for more information.

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Southwest Research Information Center

Over the past seven+ years, DOE/NNSA has:
1) implemented one part of the ROD – the administration/support building was constructed;
2) continued to operate the CMR building, while maintaining, but not implementing, the decision to decontaminate, decommission, and demolish the building some years in the future after its various functions are transferred to other locations or otherwise terminated; and
3) decided ***not*** to construct any of the Nuclear Facility alternatives described in the FEIS.

The DSEIS states:

> "Based on new information learned since 2004, the 2004 CMRR-NF would not meet the standards for a Performance Category 3 (PC-3) structure as required to safely conduct the full suite of NNSA AC and MC mission work. Therefore, the 2004 CMRR-NF would not be constructed." at 1-10.

Based on the requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, et seq. and its implementing regulations, DOE/NNSA must decide how to proceed. DOE/NNSA does not want to discard the November 2003 FEIS because it is the basis for the Radiological Laboratory/Utility/Building (RLUOB) that has been constructed and will soon begin operations. But DOE/NNSA also does not want to be bound by the Nuclear Facility reasonable alternatives of that FEIS.

Furthermore, since 2004, DOE/NNSA has advocated constructing the Nuclear Facility. Therefore, it also appears that DOE/NNSA wants to limit its examination of alternatives because it has a pre-determined outcome of constructing Nuclear Facility.

The most straightforward NEPA-compliant proposed action now would be to start a new EIS process with the purpose and need being how to operate the CMR building and/or its functions for the next decade or more. The reasonable alternatives would include:
- "no action" – maintain some functions in the CMR building;
- "reduced operations" – terminate some of the CMR functions;
- "transfer operations" – consider other facilities at LANL, including the RLUOB, TA 55 Plutonium Facility, as well as other NNSA sites for CMR functions; and
- "proposed action" – construct a Nuclear Facility, with two construction options, that would begin operations in approximately 2023 and operate for several decades.

The option DOE/NNSA has chosen instead is to try to supplement an admittedly inadequate FEIS regarding the CMRR-NF, so that all of those reasonable alternatives cannot be considered. Such an action is clearly contrary to the requirements of NEPA, and it must stop.

Council on Environmental Quality (CEQ) regulations under the National Environmental Policy Act (NEPA) clearly state that alternatives including the proposed action are:

> "the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (§1502.15) and the Environmental Consequences (§1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply

205-1 cont'd

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Southwest Research Information Center

defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:
(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
(c) Include reasonable alternatives not within the jurisdiction of the lead agency.
(d) Include the alternative of no action.
(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.
(f) Include appropriate mitigation measures not already included in the proposed action or alternatives." 40 CFR § 1502.14 (emphasis added).

The DSEIS totally fails to fulfill the requirement to "consider all reasonable alternatives." The DSEIS in reality has only one reasonable alternative, which is the proposed action: construct the Nuclear Facility of 407,600 gross square feet divided between four floors plus a partial roof level by excavating to a depth of 58 feet or excavating to a depth of 130 feet and backfilling with 250,000 cubic yards of low-slump concrete to a depth of about 60 feet.

The other two alternatives in the DSEIS are "No Action Alternative (2004 CMRR-NF)" but it will not be constructed and therefore is not a reasonable alternative, and "Continued Use of CMR Building Alternative." Regarding the latter alternative, the DSEIS states:

205-1 cont'd

> "This alternative does not completely satisfy NNSA's stated purpose and need to carry out AC and MC operations at a level to satisfy the entire range of DOE and NNSA mission support functions. However, this alternative is analyzed in this *CMRR-NF SEIS* as a prudent measure in light of possible future fiscal budgetary constraints." at 1-13.

Thus, the alternative of continuing use of the CMR building is not a reasonable alternative, but is effectively a "no action" alternative. The reasonable alternatives of reducing operations by downsizing the CMR building and its functions, or transferring some or all functions to other locations and terminating other functions are not considered.

2. The DSEIS is legally flawed because the alternatives fail NEPA's "hard look" test.
NEPA also directs that DOE take a "hard look" at the environmental impacts of its proposed action and compare them to alternative means of fulfilling the same purpose and need for agency action that may avoid or mitigate environmental harms or risks posed by that action. "What constitutes a „hard look' cannot be outlined with rule-like precision, but it at least encompasses a thorough investigation into the environmental impacts of an agency's action and a candid acknowledgement of the risks that those impacts entail." Nat'l Audubon Soc. v. Dept of the Navy, 422 F.3d 174, 185 (4th Cir. 2005).

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Commentor No. 205 (cont'd): Don Hancock
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The DSEIS cannot take a "hard look" at all of the alternatives, because the document does not even include all of the reasonable alternatives. Nor does it technically provide a "thorough investigation" of the impacts of the proposed action, as will be discussed hereafter. **205-1 cont'd**

3. The DSEIS has insufficient policy options because the Nuclear Facility is only one size with the capacity to support manufacturing of 80 plutonium pits per year.
In its 1999 ROD on the LANL Site-Wide EIS, DOE/NNSA stated:

> "DOE will establish, over time, a pit production capability at LANL with a capacity of nominally 20 pits per year; this decision reflects an intent to establish a pit production capability at LANL within the existing floor space set aside for this operation (about 11,400 ft 2 [1060 m 2]). This will eliminate the need to transfer several Technical Area-55 plutonium operations (to „„make room'' for pit production activities in Technical Area-55) either to the CMR Building, or to newly constructed nuclear space, as contemplated in the Site-Wide Environmental Impact Statement. Thus, the Preferred Alternative for Pit Production can be implemented without an expansion of the plutonium operations floor space at LANL." 64 *Federal Register* 50803 (September 20, 1999).

In its December 2008 ROD on the Complex Transformation Supplemental Programmatic EIS, DOE/NNSA stated: **205-2**

> "NNSA does not foresee an imminent need to produce more than 20 pits per year to meet national security requirements." 73 *Federal Register* 77648 (December 19, 2008).

However, the Nuclear Facility would cost an estimated $6 billion or more and would support expansion of LANL's capability to manufacture up to 80 plutonium pits per year from the year 2023 onward. SRIC believes that a manufacturing capability of 20 plutonium pits per year is more than sufficient to maintain the U.S. nuclear arsenal. With the entry in force of the new START Treaty with Russia, the U.S. is limited to 1,550 warheads. The LANL capability of 20 pits per year has been sufficient to maintain a larger nuclear arsenal than the U.S. will have in the future. Thus, there is no apparent reason for the plutonium pit manufacturing capability to increase. There is certainly not a demonstrated need to have as the only action option a 407,600 gross square feet Nuclear Facility. At a minimum, decisionmakers and the public deserve a range of policy options, not just to leave things as they are or construct the huge, expensive Nuclear Facility. Such a range of options should be included in the new EIS process.

4. The DSEIS has insufficient policy options regarding commitment of resources.
CEQ regulations under NEPA require consideration of "any irreversible or irretrievable commitments of resources which would be involved in the proposal should it be implemented." 40 CFR § 1502.16. In addition to the NEPA requirements, decisionmakers and the public must understand the commitment of resources required by the Nuclear Facility, especially given present concerns regarding the national debt and deficit spending. **205-3**

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205-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF.

205-3 Irreversible and irretrievable commitments of resources are addressed in Chapter 4, Section 4.8.3 of the *CMRR-NF SEIS*. The focus of the analysis is on commitment of materials, land, mineral, and energy resources. Financial resources are beyond the scope of the analysis.

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205-4

The cost of constructing and operating the Nuclear Facility is unknown, but current estimates are up to approximately $6 billion for construction. Such a large expenditure is certainly a substantial commitment of resources. Decisionmakers and the public should have other, lesser cost options, which should be included in the new EIS process.

205-5

5. The DEIS is technically flawed because there are major impacts of the Nuclear Facility that are not accurately described and analyzed.

A. Nuclear Facility operations for 50 years or more will generate substantial amounts of radioactive and hazardous waste that must be stored at LANL, and the impacts are not analyzed in the DSEIS.

The DSEIS calculates that the Nuclear Facility and RLUOB annual waste generation rates are 88 cubic yards of transuranic (TRU) waste; 2,666 cubic yards of low-level waste (LLW) and mixed LLW; and 344,000 gallons of radioactive liquid. at 4-59. For 50 years, that would total 4,400 cubic yards of TRU; 133,300 cubic yards of LLW/MLLW; and 17,200,000 gallons of radioactive liquid.

The DSEIS states that the TRU waste would go to the Waste Isolation Pilot Plant (WIPP), the LLW/MLLW would go to the Nevada Test Site (NTS) or a commercial disposal site, and that the liquid waste would go to TA-50 for treatment. at 4-58 to 4-61.

However, WIPP is scheduled to end disposal operations by 2030, so for most or all of the Nuclear Facility's lifetime, WIPP will not be available for TRU waste disposal. DOE has no plans for another TRU disposal site. NTS and commercial disposal sites may or may not be available for all of the Nuclear Facility's lifetime. Thus, an adequate EIS would analyze the impacts of all of the TRU and LLW/MLLW staying at LANL, which the DSEIS does not even consider.

Moreover, the DSEIS does not accurately calculate the amount of waste that would result from the Nuclear Facility's operation. The CMRR-NF would be integral to the Plutonium Facility operations and is essential for production of 80 plutonium pits per year. Thus, the resulting increased waste generation from increased pit manufacturing would only occur if the NF is operational. The DSEIS does not include the data about the waste generation from the Plutonium Facility or any analysis of the impacts of the increased amounts of waste. An adequate EIS must consider the total and cumulative environmental impacts of the Nuclear Facility and interrelated plutonium operations.

205-6

B. Nuclear Facility operations would inhibit or prevent the cleanup missions of LANL, which is not described or analyzed in the DSEIS.

LANL is under a Consent Order with the New Mexico Environment Department, which, among other things, seeks to clean up waste sites, including at Area G. Disposal of LLW generated by the Nuclear Facility "could occur on site while Area G continues to accept waste." at 4-59. However, under the Consent Order, disposal at Area G must end years before the Nuclear Facility would begin operations in 2023. If the DSEIS is correct that LLW would go to Area G, the Nuclear Facility would delay closure of Area G and prevent the cleanup mission of that site.

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205-4 The cost to build and operate the proposed CMRR-NF is not within the scope of the CMRR NF SEIS, but it will be one aspect that NNSA takes into consideration when making its decision.

205-5 As summarized in Section 2.5, Cleanup and Waste Management, of this CRD, the CMRR-NF and RLUOB would be designed, constructed, and operated to accommodate the projected waste volumes to be generated at the facilities. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. Section 2.5 of this CRD discusses the situation regarding the availability of WIPP for disposal of TRU waste. The possibility of offsite low-level radioactive waste disposal facilities not being available in the future is speculative and not appropriate for consideration in the SEIS. The impacts associated with transportation of radioactive and nonradioactive wastes to offsite waste management facilities have been estimated for all alternatives (see Chapter 4, Sections 4.2.13, 4.3.13, and 4.4.13, of the *CMRR-NF SEIS*).

DOE expects that RLWTF will be available to treat liquid wastes generated from various LANL facilities, using the existing capabilities of RLWTF or any future upgrades.

Only a 63 acre portion of Area G containing Material Disposal Area G and other waste disposal and management capabilities would be closed consistent with remediation decisions reached by NMED for Material Disposal Area G pursuant to the 2005 Consent Order. Waste management operations would be transitioned to other LANL locations. For example, the transition of low level radioactive waste disposal operations to Zone 4 within Area G has been assessed in the 2008 *LANL SWEIS* (DOE 2008a). As noted in the *CMRR-NF SEIS*, low level radioactive waste disposal may occur at Area G or at offsite DOE or commercial locations. (The *CMRR-NF SEIS* conservatively analyzes transportation impacts assuming all low level radioactive waste is transported off site for disposal.)

The commentor links the generation of waste from an assumed increase in pit production at TA-55 Plutonium Facility to the proposed CMRR-NF project. Please see the response to comment number 205-2.

Chapter 4, Section 4.6, of the *CMRR-NF SEIS* includes a cumulative impacts analysis of waste management requirements associated with projected future needs including both the proposed CMRR-NF and other LANL facilities

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Southwest Research Information Center

The DSEIS should commit that LANL operations will not delay closure of Area G and include that commitment in the EIS.

C. The Nuclear Facility would impact tribal concerns, which are not adequately described and analyzed in the DSEIS.

The DSEIS mentions some tribal issues, but notably ignores two major concerns - cleanup of the contamination at LANL and increased plutonium pit production. The Pueblos have supported cleanup because of their concerns about air and water pollution that affects their sacred lands and the health of their people. Tribal members also have expressed concerns about the impacts of increased pit production because of additional waste, contamination, and transportation that would occur.

The EIS must describe and analyze tribal concerns and explain how the alternatives and mitigation efforts address those concerns. **205-7**

6. <u>The DEIS is technically flawed because it does include analysis of decommissioning of the CMRR-NF.</u>

The total amount of waste generated and total cost of the Nuclear Facility include the decontamination, decomissioning, and demolition of the facility. The DSEIS provides no estimates on the amount of waste that would be generated by decontaminating, decomissioning and demolishing the Nuclear Facility. The DSEIS also provides no cost estimates for those activities.

SRIC understands that estimating waste amounts and costs 60 years or more in the future would be orders of magnitude estimates. But that fact should be acknowledged in an adequate EIS, and some estimates of the range of costs should be made based on actual historic practices. **205-8**

7. <u>The DSEIS public participation process has been grossly inadequate.</u>

SRIC has participated in dozens of EISs done by DOE, NNSA, and other federal agencies. The poor public participation process was among the worst that we have experienced and shows a marked lack of interest and/or significant lack of ability by DOE/NNSA.

Some of the many examples of a poor public participation process include the following.

A. Despite discussions with DOE/NNSA officials about the public process before the NOA was released, an inadequate 45-day public comment period and only three public hearings were noticed.
B. Time and resources that could have been used by SRIC and other organizations and individuals to promote turnout at the hearings and preparation of comments had to be diverted into additional efforts to secure an extension of the comment period and additional hearings in Albuquerque and Taos.
C. DOE/NNSA then granted only an inadequate 15-day extension of the comment period.
D. DOE/NNSA held only one additional hearing and that May 23 Albuquerque hearing was not adequately noticed 15 days in advance, as required by DOE's NEPA regulations at 10 CFR 1021.313(b). The *Federal Register* notice of the Albuquerque hearing was published on May 16. The postcard announcing the Albuquerque hearing was received by SRIC on May 19. **205-9**

6

including the TA-55 Plutonium Facility. Sufficient capacity is expected to be available on site or off site to treat and dispose of all of the projected amounts of radioactive waste. Refer to Section 2.5, Cleanup and Waste Management, of this CRD, for more information.

205-6 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

See the response to comment 205 5 for the status of Area G.

205-7 Regarding the potential impacts of an increase in the level of pit production, the commentor is again referred to the response to comment number 205-1. In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order.

Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low income populations surrounding LANL. The potential impacts on the general population from construction, operations, and transportation would be small as indicated in the impact analyses presented in Chapter 4, Sections 4.2, 4.3, and 4.4. As discussed in Section 4.3.8 and 4.4.8, there are not expected to be any significant impacts on cultural resources within LANL as a result of implementing these alternatives. As discussed in Sections 4.3.4, 4.3.6, 4.4.4, and 4.4.6, there are not expected to be any significant impacts on air or water quality as a result of implementing these alternatives. As discussed in Sections 4.3.13 and 4.4.13, there are not expected to be any significant impacts on transportation routes or traffic in the area surrounding LANL as a result of implementing this alternative. Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives, while waste management is addressed in Sections 4.2.12, 4.3.12, and 4.4.12. As indicated in Sections 4.2.11, 4.3.11,

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E. At the Albuquerque hearing on May 23, SRIC's representative was rudely interrupted by the facilitator less than 5 minutes into his presentation. The facilitator had first announced that speakers would have 5 minutes, then decided to limit their time to 3 minutes. Based on the number of people registered to speak, there was adequate time for 5 minutes or more for each speaker. Facilitators at many other NEPA hearings have had much less rude and intrusive ways of having speakers wind up their comments.

F. DOE/NNSA later held a "meeting" in Taos, but did not provide for public comment on the DSEIS.

G. Despite announcing in the *Federal Register* and at the public hearings that comments could be emailed to NEPALASO@doeal.gov, that email address did not accept comments from more than 4,000 separate individuals around the nation. In addition, several people in New Mexico contacted SRIC during the public comment period to complain that their comments to the email address were not accepted.

Each of those examples could have easily been avoided or better handled by DOE/NNSA, as other agencies have done. SRIC and other representatives of citizen organizations discussed most of those matters with LASO officials before the NOA was issued and during the public comment period to try to avoid the problems. Thus, the reasonable conclusion is that DOE/NNSA were not interested in an adequate, effective public participation process or that they were not competent to carry out such a process.

205-9 cont'd

Conclusion

SRIC is aware that many other people are commenting on additional aspects of the DSEIS. SRIC's comments and those of all other persons must be fully considered. If DOE/NNSA adequately considers the comments, the DSEIS will be withdrawn and scoping for a new EIS will be carried out.

Sincerely,

Don Hancock

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and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives. Also, impacts from a special pathways analysis have been included in Sections 4.3.11 and 4.4.11.

205-8 As discussed in Chapter 2, Section 2.10.2.2, DD&D of the new CMRR-NF would be considered at the end of its lifetime, designed to be 50 years. For either the 2004 CMRR-NF or the Modified CMRR-NF, impacts of DD&D of the CMRR-NF are expected to be comparable to those of DD&D of the CMR Building. Although activities involving radioactive materials that would be performed at the CMRR-NF are similar to those currently performed at the CMR Building, construction and operation of the CMRR-NF would reflect over 50 years of experience in facility design and operation and contamination control, with implementation of pollution prevention and waste minimization practices. An appropriate NEPA analysis would be conducted prior to commencing DD&D.

205-9 NNSA notes the commentor's concerns about the public outreach process. NNSA's implementation of public participation activities for review of the *Draft CMRR-NF SEIS* was consistent with past practices for other NEPA documents prepared for LANL. NNSA announced a 45 day comment period to provide sufficient time for interested parties to review the *Draft CMRR-NF SEIS*. In response to requests for additional review time, the comment period was extended by 15 days to a total review time of 60 days (76 FR 28222). All comments submitted to NNSA were considered in preparing the Final CMRR NF SEIS.

DOE regulations state that "DOE shall hold at least one public hearing on DOE draft EISs. Such public hearings shall be announced at least 15 days in advance. The announcement shall identify the subject of the draft EIS and include the location, date, and time of the public hearings" (10 CFR 1021.313(b)). NNSA published a Notice of Availability for the *Draft CMRR-NF SEIS* in the *Federal Register* on April 29, 2011 (76 FR 24018). That notice stated that the public review and comment period would continue until June 13, 2011 and announced public hearings to be held in Los Alamos, Española, and Santa Fe on May 24, 25, and 26, respectively. On May 6, 2011, NNSA published a Federal Register notice (78 FR 28222) to extend the comment period 15 days and to add a hearing in Albuquerque. While the Federal Register notice appeared a week before the Albuquerque public hearing, a notice of the Albuquerque public hearing

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was published in the Albuquerque Journal on May 8 and 19, 2011, meeting the requirement for 15 day advance notice.

The length of time given to commentors to speak at public hearings was predicated based on the number of anticipated commentors. Time was available to provide additional comments after all requested commentors spoke. In addition, other methods were available to provide public comments. Please refer to Section 2.2, NEPA Process, of this CRD for more information.

After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR-NF project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

Although many emails were received through the project email address, there were approximately 4,500 submittals that were attempted, but not successfully received by that method. Paper copies of these comments were later transmitted to NNSA and were fully considered in preparing the *Final CMRR-NF SEIS*. Responses to these comments can be found in Campaign AA.

Commentor No. 206: Geoffrey H. Fettus, Senior Project Attorney
Natural Resources Defense Council

June 28, 2011

Via Electronic Mail

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
Department of Energy – Los Alamos Site Office
3747 West Jemez Road
Los Alamos, New Mexico 87544

RE: NRDC Comments on the Draft Supplemental Environmental Impact Statement For The Nuclear Facility Portion Of The Chemistry And Metallurgy Research Building Replacement Project At Los Alamos National Laboratory, Los Alamos, New Mexico (CMRR-NF SEIS)

Dear Mr. Tegtmeier:

The Natural Resources Defense Council (NRDC) writes today to comment on the Department of Energy's National Nuclear Security Administration's (DOE/NNSA) *Draft Supplemental Environmental Impact Statement For The Nuclear Facility Portion Of The Chemistry And Metallurgy Research Building Replacement Project At Los Alamos National Laboratory, Los Alamos, New Mexico* (CMRR-NF SEIS), DOE-EIS-0350-S1. 76 Fed. Reg. 24018 (hereinafter "Draft SEIS"). The Draft SEIS issued by DOE/NNSA is the wrong document. Rather, DOE/NNSA should have commenced work on a new Environmental Impact Statement (EIS) process for the wholly new decision proposed by the Draft SEIS. *206-1*

NRDC Statement of Interest

NRDC is a national non-profit membership environmental organization with offices in Washington, D.C., New York City, San Francisco, Chicago, Los Angeles and Beijing. NRDC has a nationwide membership of over one million combined members and activists. NRDC's activities include maintaining and enhancing environmental quality and monitoring federal agency actions to ensure that federal statutes enacted to protect human health and the environment are fully and properly implemented. Since its inception in 1970, NRDC has sought to improve the environmental, health, and safety conditions at the nuclear facilities operated by DOE and the civil nuclear facilities licensed by the NRC and their predecessor agencies.

206-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS and that a full suite of alternatives should be re-evaluated. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

As described in Chapter 1, Section 1.1 of the *CMRR-NF SEIS*, five alternatives were analyzed in the November 2003 *CMRR EIS* (DOE/EIS-0350) (DOE 2003b): (1) Alternative 1 (the Preferred Alternative): Construct a new CMRR Facility at Technical Area 55 (TA-55); (2) Alternative 2 (Greenfield Site Alternative): Construct a new CMRR Facility at TA-6; (3) Alternative 3 (Hybrid Alternative at TA-55): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-55 and continue use of the CMR Building; (4) Alternative 4 (Hybrid Alternative at TA-6): Construct new Hazard Category 2 and 3 laboratory buildings (above or below ground) at TA-6 and continue use of the CMR Building; and (5) No Action Alternative: Continue use of existing CMR Building – no new building construction. The Preferred Alternative (Alternative 1) was selected for implementation in a 2004 ROD (69 FR 6967) for the *CMRR EIS*. In addition, in the 2008 ROD for the *Complex Transformation SPEIS* (73 FR 77644) NNSA reaffirmed the decision to construct and operate the CMRR-NF at LANL. NNSA does not intend to revisit these decisions previously made in the *CMRR-NF SEIS*. The SEIS tiers from the previous decisions made in the RODs for the 2003 *CMRR EIS* and the 2008 *Complex Transformation SPEIS* and examines a more limited set of alternatives.

In addition, Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, describes alternatives considered but dismissed from detailed analysis. These alternatives include: (1) alternative locations outside LANL; (2) extensive upgrades to the existing CMR Building; and (3) moving capabilities to other LANL facilities. Based on public comments, Chapter 2, Section 2.7 was revised to include more information on alternatives considered but not evaluated in detail.

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Natural Resources Defense Council

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A New EIS is Necessary.

On February 3, 2004, then-NNSA Administrator Linton Brooks issued the Record of Decision (ROD) for the CMRR Project, based on the Final EIS. 69 Fed. Reg. 6967 (February 12, 2004). This was the result of a multi-year process. The final agency action and decision implemented by the ROD was, quite simply:

> [Th]e construction and operation of a new CMRR facility within TA-55 at LANL. The new CMRR facility would include two buildings (one building for administrative and support functions, and one building for Hazard Category 2 SNM laboratory operations), both of which would be constructed at above ground location (construction option 3). The existing CMR building would be decontaminated, decomissioned and demolished in its entirety (disposition option 3).

Id. at 6972 (February 12, 2004).

Over the past seven years, DOE/NNSA has:

> 1) Implemented one element of the ROD by constructing the administration/support building;
>
> 2) Continued to operate the CMRR building. But importantly, the agency has not implemented any aspect of the decision to decontaminate, decommission, and demolish the building as, we suspect, there has been no progress on transferring to other locations or simply terminating the various functions. Rather, the building has been maintained; and
>
> 3) Decided not to construct any of the Nuclear Facility alternatives described in the Final EIS.

Now, in light of this work subsequent to its Final EIS and the 2004 ROD, the latest iteration states:

> Based on new information learned since 2004, the 2004 CMRR-NF would not meet the standards for a Performance Category 3 (PC-3) structure as required to safely conduct the full suite of NNSA AC and MC mission work. Therefore, the 2004 CMRR-NF would not be constructed.

Draft SEIS at 1-10.

The Department is well aware that it must comply with the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321, et seq. and its implementing regulations. We agree that the current situation is somewhat unusual in that typically an agency proposes a major federal action, conducts the EIS process, including issuing a ROD, and ultimately implements a decision that

206-1 cont'd

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Commentor No. 206 (cont'd): Geoffrey H. Fettus, Senior Project Attorney
Natural Resources Defense Council

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reflects input received during the NEPA process. Or, as happens in the rare instance, the agency proposes a major federal action, conducts the EIS process, including issuing a ROD, and decides – or a court decides – to not carry out the proposed major federal action.

But in this instance, the major federal action was proposed, the NEPA process concluded, the ROD issued, and the agency itself determined that a significant aspect of the program was unsafe and not an action that federal government will perform to conclusion. But rather than discard a clearly inadequate 2003 FEIS and begin again, DOE/NNSA has attempted to shoehorn its NEPA compliance into the current supplemental process. We surmise two reasons for continued reliance on the 2003 FEIS: (1) it is the compliance basis for the Radiological Laboratory/Utility/Building (RLUOB) that has been constructed and will soon begin operations; (2) DOE/NNSA does not want to be bound by the Nuclear Facility reasonable alternatives presented in the 2003 FEIS and its subsequently issued ROD, so it issued the instant supplemental document with its even more limited, "tiered" set of alternatives in order to unlawfully constrain the agency's examination of alternatives examined; and (3) DOE/NNSA limits its examination of alternatives because it has a pre-determined outcome that it has advocated since 2004 – constructing the Nuclear Facility. Specifically, in the Draft SEIS, DOE/NNSA limits its examination of alternatives to avoid grappling with how to operate the CMR building and/or its functions for the next decade or more and moves ahead with intentions advocated since at least 2004, building the Nuclear Facility.
The proposed action gives the appearance of having a pre-determined outcome. NEPA does not allow for such pre-determination, and instead requires the agency to undertake a "hard look" at all reasonable alternatives.[1]

206-1 cont'd

A far more straightforward and NEPA-compliant proposed approach would be to commence a new EIS process—with a newly thought out statement of purpose and need that reflects the current administration's priorities – and a full examination of the following reasonable alternatives with all of their attendant environmental impacts (and associated opportunities to either mitigate or avoid those harms):

- "no action" – maintaining some functions in the CMR building;
- "reduced operations" – terminate some of the CMR functions;
- "transfer operations" – consider other facilities at LANL, including the RLUOB, TA 55 Plutonium Facility, as well as other NNSA sites for CMR functions; and
- "original proposed action" – constructing a Nuclear Facility, with two construction options, that would begin operations in approximately 2023 and operate for several decades.

The option DOE/NNSA has chosen is to try to supplement an admittedly inadequate FEIS regarding the CMR-NF, making transparent its effort to avoid examination of a host of reasonable alternatives and end up constructing the CMRR-NF. That option is contrary to the

[1] "What constitutes a 'hard look' cannot be outlined with rule-like precision, but it at least encompasses a thorough investigation into the environmental impacts of an agency's action and a candid acknowledgement of the risks that those impacts entail." Nat'l Audubon Soc. V. Dept of the Navy, 422 F.3d 174, 185 (4th Cir. 2005).

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requirements of NEPA and must cease. DOE/NNSA should return the drawing board and issue a new Notice of Intent to Prepare an EIS for an entirely new process, with a new statement of purpose and need and a new, rigorous examination of alternatives. **206-1 cont'd**

If you have questions, please do not hesitate to contact me at (202) 289-6868. Thank you for considering our views on these important matters.

Sincerely,

/s/__________________

Geoffrey H. Fettus
Senior Project Attorney
Natural Resources Defense Council
1152 15th Street, NW
Suite 300
Washington, DC 20005
(202) 289-6868

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Commentor No. 207: Laura Watchempino

From: Laura Watchempino [5000wave@gmail.com]
Sent: Monday, June 27, 2011 3:29 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF SEIS

I am writing once again to state the need for a new EIS, rather than a Supplemental Environmental Impact Statement (SEIS) for a completely redesigned Chemical and Metallurgical Research Replacement Nuclear Facility (CMRR-NF) at Los Alamos National Laboratory (LANL) .

The orginal 2004 EIS for the new building is dated and requires a completely new assessment of environmental impacts based on a final new design for the CMRR-NF in a geologically unstable area that drains to the Rio Grande. The public health and safety risks of a new building for the processing of plutonium and nuclear materials to downwind and downstream communiities must be a paramount consideration. **207-1** LANL's historic discharges have disproportionately impacted Native and Hispanic New Mexicans along the Rio Grande **207-2**

LANL recently settled a Clean Water Act lawsuit by Amigos Bravos and other community groups of against LANL to stop polluted run-off to the Rio Grande from over 2,000 dumpsites on LANL property. LANL's track record of disregard for human health and safety must be questioned and is another reason why a new EIS for the new CMRR-NF is required. **207-3**

I also entered comments on the laptop computer provided at the public meeting in Albuquerque, NM on May 23, 2011.

207-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA has determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

207-2 Based on public comments, Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on minority and low-income populations surrounding LANL. The potential impacts on the general population from construction, operations, and transportation would be small as indicated in the impact analyses presented in Chapter 4, Sections 4.2, 4.3, and 4.4. As discussed in Section 4.3.8 and 4.4.8, there are not expected to be any significant impacts on cultural resources within LANL as a result of implementing these alternatives. As discussed in Sections 4.3.4, 4.3.6, 4.4.4, and 4.4.6, there are not expected to be any significant impacts on air or water quality as a result of implementing these alternatives. Sections 4.2.10, 4.3.10, and 4.4.10 of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

207-3 NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental

Commentor No. 207 (cont'd): Laura Watchempino

surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, of this CRD, for more information on cleanup of past contamination.

Commentor No. 208: Pat Walsh

From: Pat Walsh [walshpat@earthlink.net]
Sent: Monday, June 27, 2011 11:11 PM
To: NEPALASO@doeal.gov
Subject: Fukushima, NE and Fukushima, NM

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have summarized some of my concerns in my subject line.

Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. ***208-1***

A new nuclear facility will detract from cleanup of the existing mess.

The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. ***208-2***

And one last word: FIRE !!!!

Pat Walsh
Port Washinngton, WI

208-1 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. But there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 208 (cont'd): Pat Walsh

208-2 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials, including vegetation, are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 209: Sheri Kotowski

June 27, 2011
Dear Mr. Tegtmeier,

I live in the Rio Embudo Watershed located about 35 miles directly down wind from Los Alamos National Laboratory (LANL). My village and the entire watershed are currently inundated with smoke, ash and unknown contamination from the Las Conchas Fire. I have many concerns about the CMRR-NF currently under construction, but foremost is the senseless terrorizing of communities by posing such a risk as a nuclear bomb factory and storage facility in a major wild fire hazard zone. This is the 4th major fire threatening LANL over a 15-year period and only the beginning of climate change induced drought. This Bomb Factory clearly poses an unjustified local and global risk disguised as "national security" to our communities and our lands.

As the Las Conchas Fire is raging around LANL at this very moment, I want to ask you if you were here during the Cerro Grande Fire, the Dome Fire or the San Miguel Fire? So many people from LANL that I meet these days were not. Unlike the Cerro Grande Fire the Las Conchas Fire is a very immediate and swift moving fire. This drought driven fire has in less that 24 hours ravaged over 43,000 acres, same amount as the Cerro Grande consumed in 21-days. Spurred by this climate change induced drought the fire is charging with little relief in sight. Areas threatened by fire now include High Explosive (HE) Open Burn and Open Detonation sites. These areas are highly contaminated with HE and depleted uranium. Area G, an open-air radioactive waste storage unit is also threatened as well as canyons contaminated with PCB's, HE and toxic and radioactive heavy metals. At this point we have heard nothing about what contamination may be present in the plume of this fire. **209-1**

I feel extremely threatened at the moment with this fire burning through legacy contamination still waiting to be cleaned up because of clean ups' low priority status all the while DOE continues to dump billions into the CMRR-NF, a facility designed to build more of something we do not need. **209-2** LANL has never taken the threat of wild fire seriously despite all the major fires that will continue to threaten LANL. For example, in the FEMA Emergency Management Exercise that took place in 2009, citizens and Non-Governmental Organizations repeatedly requested that the scenario reflect a substantial wild fire, i.e. Cerro Grande. This did not happen because LANL felt that it was an unreasonably exaggerated scenario that could not possibly happen. It did and now we have the Las Conchas which s beginning to make Cerro Grande look like a stroll in the park. ***209-1 cont'd***

DOE and NNSA must recognize the complete inadequacy of the Supplemental Environmental Impact Statement (SEIS) for the CMRR-NF project, halt construction activities and prepare a new Environmental Impact Statement. DOE/NNSA/LANL must return to the drawing table and do a complete EIS that addresses:

1. The 50% increase in scale and scope of the CMRR-NF. A SEIS by concept is meant to reflect only minor and inconsequential changes in a project, not changes that result in an over 10- fold increase in budget. **209-3**

1. A Nuclear Facility and plutonium storage located in a region where wildfire is the number one and most likely hazard in Northern New Mexico. ***209-1 cont'd***

209-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. However, NNSA has taken actions to mitigate the risks of a wildfire on the domes. In 2000, the Cerro Grande fire burned a heavily forested canyon area to within about 0.75 miles (1.2 kilometers) of the waste storage domes, but none were burned and there were no radiological releases from the domes. The Las Conchas fire reached the southern border of LANL, but did not get within 2 miles (3.2 kilometers) of the domes. Additional fuel reduction has been conducted since the Cerro Grande fire, both to the vegetation surrounding TA-54 and within the domes themselves (for example, wooden pallets have been replaced with metal pallets), to further decrease the potential for a waste storage dome fire occurring as a result of a site wildfire. Furthermore, NNSA has an active program to remove the waste stored at Area G and ship it to WIPP for disposal.

Chapter 4, Section 4.3.1.7, of the 2008 *LANL SWEIS* summarizes a number of studies performed following the Cerro Grande fire to determine the impacts the fire had on the movement of contaminants (DOE 2008a). Preliminary monitoring data for the Las Conchas fire are available on the "Racer" website at http://racernm.com/. Additional monitoring data will be published in the LANL environmental surveillance reports typically published in the fall of each year for the previous year and available at "http://www.lanl.gov/environment/all/esr.shtml."

Commentor No. 209 (cont'd): Sheri Kotowski

2. All current and pending Seismic Reports indicating the possibility of a magnitude 8 earthquake. Current reports recognize that the fault line that the CMRR-NF sits on is capable of an earthquake of the same magnitude as the Fukushima earthquake in Japan earlier this year. **209-4**

3. Emergency Management and Preparedness (EM&R) both at the LANL site and regionally, in the event of a magnitude 8 earthquake. An earthquake of this magnitude is likely to spur wild fire. LANL has continually failed to adequately address countless and repetitive infractions in EM&R, to the point now that audits are no longer available for public inspection. **209-5**

4. The effects and impacts of climate change on the region in relationship to this facility, that includes fire risk and water consumption extending into the year 2025 **209-1 cont'd**

5. Negative socioeconomic and environmental impacts to agriculture that includes water usage and national security. One consideration would be, Northern New Mexico is on the verge of a farming renaissance. An example of the threatening use of "national security" would be taking water from farmland to keep making bombs. In 2010, LANL claimed that Open Burning in the hazardous waste permit was essential to "national security". **209-6**

6. Impact to Prime Farmland. Many People in Northern New Mexico make their living and/or feed their families by working the land. A bomb Factory not only would place a huge burden on water consumption it also risks contamination to the land.

7. And produce a cost effective cradle to grave analyses of this project, including damages that would be incurred by a magnitude 8 earthquake and a wild fire. This would include the true cost of producing a plutonium pit and storing 6 metric tons of weapons grade plutonium. **209-7**

The most outstanding issue is one of Local Security. I do not agree with the notion that bombs and weapons grade plutonium storage will provide security. Security is consistently having access to ample amounts of clean water, high quality food, good education and cultural integrity in a non-threatening environment. The CMRR-NF cannot provide any of this. **209-8**

Finally, I question the wisdom in risking the condemnation of future generations from a nuclear accident at this facility or the wisdom in squandering water and life to make money from something we have no use for.

Thank you for your consideration.

Sincerely,

Sheri Kotowski
PO Box 291
Dixon, New Mexico 87527
serit@cybermesa.com

NNSA acknowledges the commentor's concerns that climate change may increase the frequency and intensity of wildfires and decrease the availability of water. Based on public comments, Chapter 3, Section 3.4.4, of the *CMRR-NF SEIS* has been revised to include a description of the types of environmental changes that could occur in the southwestern United States due to climate change. A discussion of potential impacts that could result at LANL from climate change and that addresses water usage has been added to Chapter 4, Section 4.1.

As noted above, the CMR Building and the TA-55 Plutonium Facility were not included in the 2008 *LANL SWEIS* as facilities that present a significant risk due to wildfires because these facilities are largely constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum (DOE 2008a). The CMRR-NF would be at least as resistant to the effects of wildfire as the existing CMR Building. Therefore, even if the frequency of wildfires is increased by global climate change, these facilities would not be directly affected. As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

209-2 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

209-3 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 209 (cont'd): Sheri Kotowski

209-4 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 209 (cont'd): Sheri Kotowski

209-5 Chapter 4, Section 4.6.4, of the 2008 *LANL SWEIS* describes the LANL emergency management and response program. LANL personnel maintain the necessary apparatus, equipment, and Emergency Operations Center to respond effectively to virtually any type of emergency, not only on the LANL site, but throughout the local community as well. The program operates in accordance with applicable Federal requirements, including DOE Order 151.1C, *Comprehensive Emergency Management System*. Routine coordination between LANL staff and offsite agencies is primarily handled through the Los Alamos County Local Emergency Planning Committee, which meets monthly and is headed by the Los Alamos County Emergency Manager. LANL personnel provide training at no cost to a variety of county-associated response entities.

209-6 Information was added to Appendix C, Section C.6, of the *CMRR-NF SEIS*, that describes potential land contamination following a severe, beyond-design-basis earthquake and fire. The analysis presented in Section C.6 indicates that offsite contamination above levels that may require remediation could occur if this accident were to occur at the existing CMR Building or the 2004 CMRR-NF. If this accident were to occur at the Modified CMRR-NF, no land outside of TA-55 is projected to be contaminated above the screening level. Section C.6 also describes the potential impacts and costs of offsite contamination above screening levels.

As described in Chapter 5, Section 5.3, the Price-Anderson Act, which was signed into law in 1957, provides for payment of public liability claims in the event of a nuclear incident. See Section 5.3 for more information.

As described in Chapter 3, Section 3.5.7, no prime farmland soils have been designated in Los Alamos County. The closest areas of prime farmland are located approximately 7.5 miles (12 kilometers) east and 10 miles (16 kilometers) south of LANL, adjacent to the Rio Grande. With respect to water use, construction and operation of the Modified CMRR-NF would exceed that under the other alternatives. But as shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Commentor No. 209 (cont'd): Sheri Kotowski

209-7 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

209-8 Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 210: Dr. Rosemary Ann Blanchard

From: R BLANCHARD [rosemary_blanchard@msn.com]
Sent: Wednesday, June 29, 2011 1:28 AM
To: nepalaso@doeal.gov
Cc: senator_bingaman@bingaman.senate.gov; senator@tomudall.senate.gov; info@martinheinrich.com; writemartin@mail.house.gov; seanbmarcus@gmail.com
Subject: Comment on Draft CMRR-Nuclear Facility SEIS -- This is no time to be expanding plutonium production at Los Alamos

To the US Department of Energy:

210-1

At the current time it is extremely irresponsible to even consider the expansion of plutonium pit production at Los Alamos as the current wildfire situation, which is part of a recurrent pattern for this area, makes clear that the Los Alamos plateau is not a safe place to be building plutonium-based armaments, storing plutonium-based products and creating plutonium-contaminated waste. As a person who lives downwind and downstream from Los Alamos, I believe that the continued expansion of plutonium-based weapons production at that site is a direct threat to my health and wellbeing and that of my family. You too easily forget that Los Alamos is upwind and upstream from some of the most densely populated metropolitan areas in New Mexico. It is once again proving itself not to be a safe place to build up plutonium contamination.

Even before this recurrent fire proved once again what a hazardous area the Los Alamos plateau is for dirty work with plutonium, research by credible nuclear watchdog organizations had demonstrated that the justification for expanding the CMRR Nuclear Facility as presented in the SEIS was flawed, in adequate and contradictory. The report from Nuclear Watch New Mexico, which appears below, is incorporated into my own testimony on this matter because it is well researched, cogent and clear. Given the questionable logic behind the expansion of nuclear weapons construction at this time, it is particularly egregious to place at risk the health and wellbeing of the people of New Mexico who bear the brunt of the risks associate with the CMRR Nuclear facility.

In their analysis, Nuclear Watch New Mexico stated:

The Draft CMRR-Nuclear Facility SEIS is deficient because:

210-2

Purpose and need is not reexamined. The Draft SEIS claims, "The purpose and need for NNSA action [to build the Nuclear Facility] has not changed since issuance of the 2003 CMRR EIS. NNSA needs to provide the physical means for accommodating the continuation of mission-critical AC [analytical chemistry] and MC [materials characterization] capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner." Summary page 8 (S-8). But the NNSA's own recently released FY 2011 Strategic Plan states, "Many things have

210-1 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4 CMR Mission, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

210-2 Responses to comments submitted by Nuclear Watch New Mexico can be found in letter 204. Issues raised by the commentor are addressed in Section 2.2, NEPA Process, Section 2.3, Programmatic Direction and Decisions, and Section 2.4, CMR Mission, of this CRD. As discussed in Chapter 1, Section 1.5, of the *CMRR-NF SEIS*, NNSA is not planning to revisit either the need for

Commentor No. 210 (cont'd): Dr. Rosemary Ann Blanchard

changed since the last National Nuclear Security Administration (NNSA) Strategic Plan was published in 2004," immediately pointing to President Obama's April 2009 Prague speech in which he called for a future world free of nuclear weapons. Thus, on a broad level the purpose and need of the Nuclear Facility, slated to operate as long as "toward the end of the twenty-first century" (S-16), should be examined in how it helps or obstructs to reach that lofty goal.

At the same time, Obama's Prague speech called for rigorous interim maintenance of the U.S. nuclear stockpile, and his April 2010 Nuclear Posture Review (NPR) specifically endorsed constructing and operating the CMRR-Nuclear Facility as one of "the following key investments [that] were required to sustain a safe, secure, and effective nuclear arsenal." However, one thing the NPR did not do was to raise LANL's level of plutonium pit production from the currently sanctioned level of up to 20 plutonium pits per year, despite repeated attempts by the NNSA to do so. Nevertheless, the Nuclear Facility is to be built with 22,500 sq. ft. of plutonium processing space, the size of which a 2007 NNSA-commissioned study explicitly linked to a future production rate of 50-80 plutonium pits per year. That same study also assumed that new design nuclear weapons, the so-called Reliable Replacement Warheads (RRWs), would be produced, requiring expanded plutonium pit production.

210-2 cont'd

NNSA's FY 2011 Strategic Plan further states (p. 10), "As requirements for new or expanded capabilities emerge, our reinvestment strategy will use accepted life cycle management standards to integrate maintenance and replacement schedules with needs for new facilities and capabilities."

So what are these needed new or expanded capabilities, if indeed we are seeking a future world free of nuclear weapons? If these needs exist, NNSA must explain why plutonium pit production must be expanded? If expanded production is not needed, then why is the CMRR-Nuclear Facility needed?

Current and proposed "Life Extension Programs" seek to extend the service lives of the W76 and W78 ballistic missile warheads and the B61 bomb. But these programs are scheduled for completion before the CMRR-NF's operational date of 2022, so the facility is of no use to them. Taxpayer money misdirected into the CMRR-Nuclear Facility would be better put into maintenance and upgrades of existing facilities and programs.

The Draft SEIS for the CMRR-NF fails to offer and analyze realistic alternatives.

After careful reevaluation of NNSA's contemporary purpose and need for plutonium pit production, a new document should be prepared that analyses a broader set of alternatives for meeting that purpose. Two of the Alternatives given in this April 2011 draft are unworkable, which automatically skews analysis in favor

210-3

the CMRR-NF or relocating the CMR capabilities at another site. NNSA has addressed the CMRR-NF in a series of NEPA documents since the 2004 ROD for the *CMRR EIS* that announced its decision to locate a two-building CMRR Facility at TA-55. The *Complex Transformation SPEIS* (DOE 2008b), which addressed transforming the nuclear weapons complex into a smaller, more efficient enterprise, also addressed the location for manufacturing and research and development involving plutonium. In the ROD for that document, NNSA announced its decision that that mission would remain at LANL and its decision to construct and operate the CMRR Facility at LANL. Based on these decisions and the authorization for the project and appropriation of funding, NNSA intends to proceed with the CMRR-NF planning process.

The CMR Building and the CMRR-NF provide capabilities as described above. As described in Chapter 1, Section 1.2, of the CMRR-NF SEIS, NNSA's ability to perform these capabilities has been curtailed because of safety restrictions at the existing CMR Building; some types of materials characterization work have been suspended because of these limitations.

Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

210-3 The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare a supplement when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the

Commentor No. 210 (cont'd): Dr. Rosemary Ann Blanchard

of the NNSA's preferred alternative. A reasonable alternative to consider is to not build the Nuclear Facility; continue to perform analytical chemistry, material characterization, and actinide research and development activities in the old CMR Building; and make facility upgrades to that building that are needed to sustain programmatic operations for another 20 to 30 years. Crucial to the validity of this alternative is an analysis of the impacts of all current and proposed projects to extend the life of the CMR, including roofing work, exhaust fans, HEPA filters, structural and safety systems, and elevator repairs.

The CMR upgrade alternative was included in NNSA's Notice of Intent to prepare the supplemental EIS, but was not considered in the draft. The cost of CMR upgrades was offered in the 2003 EIS as the reason why the CMR upgrade alternative would not be considered. But costs for the replacement Nuclear Facility have now skyrocketed such that it is now eminently reasonable to make a business case for upgrading the old CMR Building (which would also push back costs for decontaminating and demolishing it) and not build the Nuclear Facility.
Nuclear Watch NM's preferred alternative, which we have already proposed in our Scoping Comments on this SEIS, is to not build the Nuclear Facility; D&D the old CMR Building; and consolidate CMR missions in the new 185,000 square-feet Rad Lab and PF-4. In addition to arguing that this is the appropriate alternative for NNSA to follow we also that it meets the test of being a reasonable alternative such that NNSA must analyze it.

A possible option to our preferred alternative: The CMRR-NF is being designed with a vault for safe and secure storage of up to 6 metric tons of special nuclear materials (SNM). NNSA's claimed need for the Nuclear Facility should be de-linked from any possible need for a new SNM vault. NNSA should consider not building the Nuclear Facility while building a standalone vault. That vault could perhaps free up floor space at PF-4 (further obviating the need for the Nuclear Facility) and help de-inventory both it and the old CMR Building of materials at risk in a seismic event. Materials characterization and analytical chemistry could then be performed in PF-4 and the Rad Lab.

To be a credible analysis the NNSA must develop a greater spectrum of reasonable alternatives, which could include various combinations of the following:

- Do not construct the CMRR-NF.
- Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, but making extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.
- Do not continue to use the old CMR.
- D&D the half of the CMR that was determined to be over a seismic fault.

210-3 cont'd

level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD (73 FR 77644). The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003. Another alternative addresses the alternative of continuing to use the CMR Building, although its continued use would not fully meet NNSA's stated purpose and need.

The alternative of distributing analytical chemistry and materials characterization capabilities among multiple facilities at LANL was considered, but not analyzed as a reasonable alternative. Because of the quantities of special nuclear material involved, to fully perform the analytical chemistry, materials characterization, and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. RLUOB was not intended as a nuclear-qualified space to handle Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA would not operate RLUOB as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear materials that could be handled in the building. As a result, analytical chemistry and materials characterization operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic road closures and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls and requirements for this type of work. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 210 (cont'd): Dr. Rosemary Ann Blanchard

210-3 cont'd

- Keep the nuclear materials inventory in the CMR low enough so that seismic requirements are less stringent. Operate it as a DOE Hazard Category 3 facility meaning that it has under 900 grams of plutonium-239 equivalent.
- Do not build the Nuclear Facility but do build a standalone SNM vault. This could help free up floor space at PF-4 and CMR and lower the amounts of "materials at risk" in the event of accidents or seismic events.
- Consider the most efficient use of the new 185,000 square-feet Rad Lab (which will be ready for operations in less than two years) and PF-4 for relocating old CMR activities

210-4

This draft SEIS should be withdrawn until the details of the Shallow Excavation Option are better understood. The cost-saving Shallow Option, in which the foundation would be constructed in a geologic layer above the poorly welded tuff layer, is not a mature concept, and it is not yet known if this option is safe. The draft SEIS fails to accurately analyze how impacts to the environment from this option may be different.

There are more new seismic investigations currently underway at the Lab. This draft SEIS must be withdrawn and rewritten after the results of these new investigations are known. Proceeding with design before seismic risks are better known will only repeat the process that led to the need for this Supplemental EIS.

210-5

Final Note: Although proponents of the CMRR-Nuclear Facility constantly point to the benefits of job creation, the SEIS itself states the socioeconomic impact of this new facility is minimal.

Concerning construction jobs, "Peak direct (790 workers) plus indirect (450 workers) employment would represent less than 1 percent of the regional workforce and would have little socioeconomic effect." (S-39, parentheses in the original.) The average number of construction jobs is 420 over nine years. (From Table2-1, Summary of CMRR-NF Construction Requirements, p. 2-15.)

Facility personnel would not change from existing levels, just their location, "Approximately 550 workers would be at the CMRR Facility (Modified CMRR-NF and RLUOB); they would come from the CMR Building and other facilities at LANL so the facility would not increase employment or change socioeconomic conditions in the region." (S-39, parentheses in the original)

Nuclear Watch NM argues that far more jobs could be created through other efforts, and not through a ~$6 billion dollar plutonium investment that will lock in Los Alamos' future to the hopefully shrinking business of nuclear weapons research and production.

210-4 The concerns expressed by the commentor about the Shallow Excavation Option not being a mature alternative appear to refer to statements in Chapter 1 and Chapter 2, Section 2.6.2.1, of the *Draft CMRR-NF SEIS* indicating that there was more uncertainty in the design of the Shallow Excavation Option because that design had not reached the same level of maturity as the Deep Excavation Option. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b). As indicated in the *CMRR-NF SEIS*, the Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

210-5 NNSA is not considering the alternatives in the *CMRR-NF SEIS* to create jobs; rather, these alternatives are being considered to meet the purpose and need as stipulated in Chapter 1 of the SEIS.

Commentor No. 210 (cont'd): Dr. Rosemary Ann Blanchard

I hope that you will give serious consideration to the analysis by Nuclear Watch New Mexico and to the situation on the ground at Los Alamos which makes clear that this is an unsafe site for continued development of plutonium-based materials.

Sincerely,

Dr. Rosemary Ann Blanchard
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rblnchrd@csus.edu

Response side of this page intentionally left blank.

Commentor No. 211: Tim Eisenbeis

From: Tim Eisenbeis [ateisen@gwtc.net]
Sent: Wednesday, June 29, 2011 1:17 AM
To: nepalaso@doeal.gov
Subject: I oppose the CMRR-NF

I am writing to inform you of my deep objection to this project on every count: environmental, cost, national security and moral. Nothing justifies this kind of spending when states and the federal governments are so near to shutting down for lack of funds. We, the American citizens do not need more plutonium pits nor shiny new nuclear weapons. They endanger us and can only serve to eventually blow up /incinerate the wonderful world we hope to hand off to our 2 teenage boys. ***211-1***

Tim Eisenbeis, 47
Marion, SD 57043

Tim Eisenbeis
44373 280th St.
Marion, SD 57043

211-1 NNSA notes the commentor's opposition to pit production and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 212: Patrick Brunmeier

From: patrick brunmeier [pbrunmeier@hotmail.com]
Sent: Tuesday, June 28, 2011 11:12 PM
To: nepalaso@doeal.gov
Subject: No new plutonium facility at Los Alamos National Laboratory

I write to urge you to disregard the proposition of a new plutonium facility at Los Alamos National for the following reasons (at least):

I believe that expanding the United States' nuclear weapons production capabilities is in contradiction to President Obama's stated goal of a world free of nuclear weapons.

The Department of Energy (DOE) is already struggling with prioritizing taxpayer funds intended for CLEANUP, not a new bomb plant that is dangerous, expensive, destabilizing and damaging to the environment. *212-1*

PS I write as two nuclear facilities are being threatened by flooding in the US; and another is being threatened by fire; and the meltdown continues in Japan; and three active facilities are threatened in the geologic Subduction Zone of the Pacific Northwest; and as other nations are stopping or curtailing their nuclear production. *212-2*

patrick brunmeier
200 Sheldon
mt shasta, CA 96067

212-1 NNSA acknowledges that there is substantial opposition to the development and testing of nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

212-2 NNSA acknowledges the commentor's concern about potential nuclear accidents at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 213: Beata Tsosie-Pena
Tewa Women United

June 14, 2011

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM. 87544

Dear Mr. Tegtmeier,

In regards to the Supplemental Environmental Impact Statement we, as members of downwind and downriver impacted communities, request that all construction and work on the new CMRR is halted until a new Environmental Impact Statement (EIS) is released, reviewed, and communicated to the impacted populations. As the surrounding communities health and well being is directly affected by the environmental consequences of such a facility, there needs to be a significant increase in the way that we are receiving information, opportunities for direct input, and direct involvement in decision making procedures. Additional scoping meetings need to be held in every community within a 100-mile radius of Los Alamos National Labs, Sandia National Labs, the WIPP sites, and in Uranium mining communities both in state and out of state. Public comment should be allowed as ongoing throughout the finalization of this process considering the changes in size, scope and cost of the proposed CMRR facility. We also request that more in-depth and comprehensive responses to all public comments are published alongside each other on the website and in the new EIS in order to facilitate understanding and to maintain transparency on the actual impact of these comments. **213-1**

It is vital that the state permits LANL will be applying for, and those they are exempt from, be included in the new EIS; with specific information therein regarding what will be released into the environment on a daily/regular basis. Information needs to be included that details the longevity of any radioactive or other toxins that will be released as a result of this new building. The lifespan of this facility (and the old one) must be taken into account in order to assess not only short term releases but also include the plan for decommissioning the building and/or improving it in 50 years, and what will be done with the waste generated in that time. **213-2** Financial assurance needs to be guaranteed so that our communities are guaranteed cleanup, containment, disposal and treatment of accidental and/or routine releases and exposures. **213-3** The adjacent pueblos and communities along waste transport routes do not have the capacity or emergency response training necessary to deal with an accident. We request a complete analysis of what support facilities, as well as their capacity and capabilities, will be needed for the proposed CMRR-NF, including the cost and any additional environmental impacts or changes as a result of the need for this increased support. Parallel to what happened to the communities adjacent to the Trinity Site (Tularosa Basin), where there was no plan in place to determine the impact of a nuclear explosion on local populations, and who now face cancer rates four times the national average. People in these communities have suffered and continue to suffer the irreparable harm resultant of the Trinity test with no help from the federal government. There needs to be solid information that ensures there will be zero harm on our well being as a result of this industry. **213-4**

The cost of the CMRR-NF is now 4.5 billion and rising. This is money that could be used for the benefit and prosperity of New Mexico citizens. Use it instead on health care, green energy, education, land conservation and preservation, public transportation and other endeavors that would stimulate lasting economic growth. Federal funds should be used to support and uplift our poorest communities rather than be filtered into the richest county in the nation, with concentrated dollars going to corporations profiting from unusable weapons. The jobs created by construction of this facility will end upon its completion, and does not contribute to a sustainable economy. **213-5**

We, as members of impacted communities, oppose the compartmentalization of public commentary. Of major concern is how comments are labeled as being "beyond the scope of the CMRR- EIS", because this does not leave room for our worldview and knowledge held by land-based people, regarding the holistic implications of what is being done to THEIR LAND. In addition to not holding equal value to the knowledge and contributions of local communities, the manner in which the technical material is presented, only serves to disenfranchise a population suffering from economic, social, educational and linguistic disparities. This is documented in the CMRR- EIS public comments that reference that more time is needed for comment, community education and outreach, and comprehensive, in-depth health studies. Another problematic factor is the methodology in which the public's comments were responded to. The comments were superficially abstracted, and the commenter's were instructed to refer back to the EIS document. This sort of response allowed for a one-dimensional understanding of what the commenter's were asking or stating. Much of the cultural commentary was disregarded and never addressed in this summarization. It trivialized their statements, concerns, and inquiries about the EIS by responding in a way that directed them back to the document. This serves to end dialogue rather than enhance it, and denies the public a meaningful response to their comments. It inappropriately patronizes the general population, and unfairly discredits the knowledge bases of our community experts on these matters. **213-6**

213-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

NNSA's implementation of public participation activities for review of the *Draft CMRR-NF SEIS* was conducted in compliance with applicable laws and regulations, and was consistent with past practices for other NEPA documents prepared for LANL. NNSA announced a 45-day comment period to provide sufficient time for interested parties to schedule their review of the *Draft CMRR-NF SEIS* around other commitments. In response to requests for additional review time, the comment period was extended by 15 days to a total review time of 60 days (76 FR 28222). All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

During the comment period, NNSA made the SEIS references available in five DOE Public Reading Rooms located in New Mexico and one in Washington, DC. To the extent practicable, NNSA made references available on the Internet, except where limited by copyright or security concerns.

As with previous LANL NEPA documents, the public hearings were held at regional venues near LANL (Los Alamos, Española, and Santa Fe). In response to requests for additional public hearings, NNSA also held a fourth public hearing in Albuquerque (76 FR 28222), and an informational meeting was held in Taos. Public hearings near uranium mining communities were not conducted because these facilities would not be impacted by construction and operation of the CMRR-NF. Public hearings near WIPP were not conducted because the volumes of transuranic waste to be disposed of at WIPP would be similar to those currently sent to WIPP due to operation of the existing CMR Building, and therefore, would not constitute an appreciable change in activity at WIPP.

For people who were unable to attend the hearings due to schedule conflicts or who could not travel to the hearing locations, NNSA provided a number of additional ways to comment on the draft SEIS. Comments on the draft SEIS could be submitted by U.S. mail, email, a toll-free telephone line, and a toll-free fax line. All comments submitted were considered in preparing the *Final CMRR-NF SEIS*. Responses to comments on the *Draft CMRR-NF SEIS* are included

Commentor No. 213 (cont'd): Beata Tsosie-Pena

Based on the findings in the Los Alamos Historical Document and Retrieval Assessment report (LAHDRA), which states that airborne plutonium releases in early production years at LANL exceed those of Hanford, Rocky Flats, and Savannah River combined, making us the most polluted nuclear site in the nation (LAHDRA, 2011). This fact warrants LANL's immediate action on legacy waste clean up before any new facility can be built that will only add to this contamination; in accordance with the 2005 New Mexico Environmental Departments consent order. We demand that detailed and widespread comprehensive health studies are carried out to determine the health impacts of the legacy waste already produced and released on all potentially impacted communities. We are in support of Concerned Citizens for Nuclear Safety and Nuclear Watch New Mexico's statement that, "The Department of Energy (DOE) must explain the impacts of diverting funds away from cleanup, renewable energy, and nonproliferation programs at LANL for a new manufacturing facility for plutonium pits or "triggers" for nuclear weapons called the CMRR." **213-7**

An EIS statement will only be relevant if the current standard of reference for determining safe levels of exposure to both workers and the general population is discontinued. This current standard is based on "reference man", a hypothetical male model which endangers the majority of the population in its' limitations. This standard does not protect women, children, the elderly, people of color, the unborn fetus, or any other demographic that falls outside of these narrow parameters from harm. If the agencies responsible for the EIS continue to use these inadequate ways of measuring contamination, then it endangers and threatens local populations. This model of reference is limited in its' focus on male human life. The new EIS report needs to factor in the impacts on the plant, insect, and animal communities with whom we share a delicate ecology. Our water, air and soil health are vital considerations that need to be included in any revised impact statements. **213-8**

In addition, the current EIS standards of measurement are unsatisfactory because it does not include impacts of multiple/cumulative exposures to radiological, toxic, and hazardous materials. The unique pathways of exposure that land-based people face as a result of growing and harvesting our own food, hunting, fishing, gathering wild plant-life, being outdoors for longer periods of time, livelihoods that include ranching, pottery, woodwork, natural pigments, the harvesting of forest materials, drinking, bathing, and irrigating with water, harvesting rainwater, breathing air, and ceremonial cultural practices within the pueblos all need to be analyzed, considered and respected. This needs to be done by creating meaningful dialogue and processes with local communities at a state and national level. All communities requesting a public hearing and informative sessions should be granted, and comments should be ongoing given the reasons we have stated and lack of public outreach. **213-9**

Updated seismic hazards analysis from 2007 have showed a dramatic increase in seismic motion and activity. In light of the recent nuclear catastrophe in Japan, it is apparent that even with extensive planning and state of the art facilities, far reaching long term damage to the planet and future generations cannot be ignored. **213-10** Los Alamos National Laboratories is the only facility of its kind that is in close proximity to residential areas. We reject the National Nuclear Security Administration, CMRR Federal Project Teams statement that "no other facility or site in the U.S. can fulfill its mission." We are here to say that we are not an expendable population and are no longer held to the fallacy that the southwest is a national sacrifice zone for the nuclear industry. **213-11**

We have stated reasons for the new EIS, but feel it is also necessary to express our opposition for the need for a new CMRR building in the first place. The cost is too high, it will use too much of our water that we need for agriculture and home use, historical impacts and legacy waste have yet to be addressed, and the region is unsuitable seismically, geographically, and culturally for the continuation of the nuclear industry in the Jemez Mountain Plateau. We hope and pray that LANL may shift its focus from an industry whose core is based on destructive values and a culture of violence to one that respects the sustainability of life.

As people who live in the shadow of this industry and who do not share its values, we ask that LANL's shift in mission begin with open dialogue and sincere consideration of our requests and concerns. Let this shift in mission begin with recognizing that this new facility is not needed or wanted here. We pray that our concerns are not trivialized and silenced as has been done in the past, and that we can continue living here, while healing from the damage that has already been enacted upon us. We look forward to furthering this discussion and to creative solutions to this issue that we are all affected by and involved in together. **213-12**

in the *Final CMRR-NF SEIS* and therefore, are posted on the *CMRR-NF SEIS* website at http://nnsa.energy.gov/nepa/cmrrseis.

The accident calculation methodology used in the SEIS estimates the total population dose (sum of the individual doses to all members of the affected population) within a 50-mile (80-kilometer) radius of LANL. As described in the 2008 *LANL SWEIS* (Volume 3, Book 1, Page 2-17), a 50-mile (80-kilometer) radius is commonly used in EISs because this distance has been shown to encompass the significant impacts on the public. Samples measured at varying distances from emissions sources show that the concentration of radionuclides decreases with the distance from the source. The 50-mile (80-kilometer) radius is accepted by regulatory agencies such as the U.S. Nuclear Regulatory Commission and DOE because, at this distance, the concentration of airborne radionuclides and toxic chemicals is very small.

The accident that would result in the largest population dose for a 50-mile (80-kilometer) radius region of influence, the TA-54 waste storage dome wildfire, also was analyzed using a 100-mile radius region of influence. The analysis shows that extending the region of influence out another 50 miles (80 kilometers) increases the affected population by 300 percent, while the population dose increases by only 13 percent. This shows that the radiation dose to individuals in the 50- to 100-mile range (which includes the city of Albuquerque) is very small relative to the dose to individuals within 50 miles of LANL (DOE 2008a).

213-2 Chapter 6 of the 2008 *LANL SWEIS* describes applicable environmental permits for facilities at LANL. NNSA cannot put a copy of permits in the SEIS because they have not been applied for yet. NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. Chapter 4 of the *CMRR-NF SEIS* describes the potential releases from the CMRR-NF and the environmental impacts of these releases on air quality, water resources, and human health. Annual impacts can be multiplied by 50 years to estimate total impacts from 50 years of operation. Decommissioning of the CMRR-NF is discussed in Chapter 4, Section 4.5, Facility Disposition.

213-3 As described in Chapter 5, Section 5.3, the Price-Anderson Act, which was signed into law in 1957, provides for payment of public liability claims in the event of a nuclear incident. See Chapter 5, Section 5.3, of the *CMRR-NF SEIS* for more information.

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213-4 Transportation between offsite facilities and the CMRR-NF would be similar to that historically associated with the existing CMR Building. Therefore, changes to existing emergency response capabilities would not be needed. Support facilities are described in Chapter 2, Section 2.6.2. The environmental impacts associated with the support facilities and activities are included in those presented in Chapter 4. The results in Chapter 4 show minor impacts on humans and the environment. Impacts from historic above ground nuclear testing are outside the scope of the *CMRR-NF SEIS*.

213-5 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. See Section 2.7, Economic Impacts, of this CRD for information on the economic impacts as evaluated in the *CMRR-NF SEIS*.

213-6 All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*. Comments on activities outside the scope of the *CMRR-NF SEIS* are not applicable to the analysis presented in the SEIS. NNSA provided responses to all in-scope comments received on the *CMRR-NF SEIS*. Rather than duplicate information, these responses often refer the commentor to sections of the *CMRR-NF SEIS* where the answer to the question is located.

213-7 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

As summarized in Chapter 3, Section 3.11.4, of the *CMRR-NF SEIS*, a number of health effects studies have been completed or are underway for LANL. Chapter 4, Section 4.6.1, of the 2008 *LANL SWEIS* provides additional detail on these studies. See the Centers for Disease Control and Prevention (CDC) website (http://www.cdc.gov/nceh/radiation/brochure/profile_los_alamos.htm) for more information on the status of the LAHDRA study.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

213-8 The DOE Office of Environmental and Policy Guidance recommended that DOE personnel and contractors use the risk factors recommended by the Interagency Steering Committee on Radiation Standards (ISCORS), stating that, for most purposes, the value for the general population (0.0006 fatal cancers per rem) could be used for both workers and members of the public in NEPA analyses (DOE 2003a).

Recent publications by both the Biological Effects of Ionizing Radiation Committee and the International Commission on Radiological Protection support the continued use of the ISCORS-recommended risk values. *Health Risks from Exposure to Low Levels of Ionizing Radiation: BEIR VII Phase 2* (National Research Council 2006) reported fatal cancer risk factors of 0.00048 per rem for males and 0.00066 per rem for females in a population with an age distribution similar to that of the entire U.S. population (average value of 0.00057 per rem for a population with equal numbers of males and females). ICRP Publication 103 (Valentin 2007) recommends nominal cancer risk coefficients of 0.00041 and 0.00055 per rem for adults and the general population, respectively, and estimates the risk from heritable effects to be about 3 to 4 percent of the nominal fatal cancer risk. Accordingly, a risk factor of 0.0006 LCFs per rem was used in the *CMRR-NF SEIS* to estimate risk due to radiation doses from normal operations and accidents.

The United Nations Scientific Committee on the Effects of Atomic Radiation, the International Atomic Energy Agency, and the International Commission on Radiological Protection all support the view that, "the standard of environmental control needed to protect man to the degree currently thought desirable will

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ensure that other species are not put at risk," (IAEA 1997). Therefore, the analysis of human health impacts would be indicative of the potential impacts on plants and animals. Impacts on air, water, soil, and ecological resources are evaluated in Chapter 4 of the *CMRR-NF SEIS*.

213-9 Chapter 4, Section 4.6, of the *CMRR-NF SEIS* describes cumulative impacts for public and occupational health and safety. Chapter 5, Section 5.6, of the 2008 *LANL SWEIS* includes estimates of human health risks for specific receptors, including a Los Alamos County resident whose entire diet consists of locally produced foodstuffs, a user of outdoor recreational resources, and a special pathways receptor who relies heavily on fish and wildlife for subsistence. These estimates of human health risk are for operation of all LANL facilities (including the CMR Building) under the alternatives evaluated in the 2008 *LANL SWEIS* (DOE 2008a).

213-10 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*). See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

213-11 NNSA does not consider any population expendable or any region of the country a national sacrifice zone. NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. This included options for moving the CMR capability to another location. In the 2008 ROD for the *Complex Transformation SPEIS* (73 FR 77644), NNSA reaffirmed the decision to construct

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and operate the CMRR-NF at LANL. For the reasons described in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, these alternatives are not being revisited.

213-12 NNSA acknowledges that there is substantial opposition to the nuclear weapons mission and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 214: Richard Johnson

Comments on the CMRR SEIS

This is insanity! As a citizen I am given the "opportunity" to comment on my governments plan to construct a huge facility for the design, manufacture and storage of nuclear bombs just 26 miles from my home and just 2/3 of a mile from a fault line. I am supposed to tell my government if this is or is not a good idea. In the interest of good governance this fact alone should be a deal breaker for the CMRR. Due to past volcanic activity in the proposed construction site the tuff layer of soil contains a high concentration of volcanic ash and therefore is unstable. The cost-saving so called Shallow Option is unproven. Seismic investigations are currently in process at the lab. Until these investigations can be completed no decision to go forward should be made. **214-1**

Besides the insanity of build this nuclear facility 2/3 of a mile from a known fault line, there is a total lack of need for a new generation of nuclear weapons. Our current arsenal of nuclear warheads is more then enough of a deterrent and is more than adequate to get the job done if the need should ever arise. Our nation has been getting along with creating approximately 20 needless pits per year. Why expand that production capacity by four times with this new NF when our nation is supposedly seeking a future world free from nuclear weapons? Expanding US capacity would certainly breed distrust and compromise our efforts for nuclear nonproliferation and nuclear arms reduction. **214-2**

Another reason not to go forward with this project is that our nation simply can't afford to rebuild a plutonium pit production complex at this time. In 2004 when LANL first proposed building the CMRR our country never perceived that we would be in the financial mess that we find ourselves in today. In 2004 the estimated cost to build this nuclear facility was estimated to be $600 million. With a current estimated price tag of $6 billion to upgrade the existing facility we need to put the brakes on. This investment will lock in Los Alamos' future to the hopefully shrinking business of nuclear weapons research and production. There are much more strategic uses of our nations scientific and creative resources. If we want to get serious about spending cuts defunding the CMRR would be a good place to start. **214-3**

As I am getting ready to submit these comments on this proposed CMRR Nuclear Facility, Los Alamos National Laboratory is once again threatened by a massive, out-of-control wildfire that already exceeds the Cerro Grande Fire of 11 years ago. Los Alamos today is under a state of emergency and mandatory evacuation. The Laboratory is surrounded by dense, steep and distressed Ponderosa forests. We know very well that these forests can easily propagate catastrophic crown fires that are very difficult to contain. Add in the likelihood of prolonged drought, low humidity and unpredictable winds and the risks of expanded plutonium pit production at LANL will only become more risky in the ensuing years. **214-4** Water in these mountains of the Southwest is always precious and often in short supply. This arguably unnecessary facility is slated to consume 16 million gallons of water per year. **214-5**

While the CMRR-SEIS considers the threat of a site-wide fire at the Lab, it only **214-4 cont'd**

214-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear weapons. It should be noted that a plutonium pit is only one component of a nuclear weapon. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements

Commentor No. 214 (cont'd): Richard Johnson

addresses fires that are seismically induced or that begin within the Nuclear Facility itself. The threat of wildfire like we are experiencing today is not comprehensively considered nor does this document address the Lab's ability to respond in the event of mass evacuations and the loss of the power grid. A complete analysis of this very real threat needs to be undertaken before there is another wildfire. ***214-4 cont'd***

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for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

214-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

214-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

214-4 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 214 (cont'd): Richard Johnson

214-5 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information.

Commentor No. 215: Rose Ann Kaiser

From: rakaiserolvm@juno.com
Sent: Tuesday, June 28, 2011 12:51 PM
To: nepalaso@doeal.gov
Subject: CMRR

Dear Mr. John Tegtmeir
Los Alamos, NM
U.S. DOE/NNSA Los Alamos Site Office

I am writing to you with a heavy heart and a great deal of sadness about the proposed Chemistry and Metallurgy Research Replacement (CMRR) project in Los Alamos, NM. I'm trying to find words to describe my reaction to this new venture. Insane? Stupid? Wasteful? Hypocritical? I think all those words probably fit this proposal. Truly, I don't mean to be disrespectful to any of the people involved in this venture, I mean my criticism for the proposal itself, so please don't take this personally. I'm sure you are in this with the best of intentions, but I do so disagree with everything the proposal stands for.

We preach to other weaker nations that they dare not produce nuclear weapons, and here we are with a huge stockpile capable of destroying the entire planet, and now proposing to waste billions more on building more "triggers"?!?! This is a scandalous situation! One that our president and military giant of the past, Dwight Eisenhower, warned us against -- the dangers of the U.S. military industrial complex. What he warned against has all come true. We continue to spend enormous amounts of money on ways to destroy one another along with our planet, instead of ways to build the earth and its peoples. Is that insane or what??!! And surely no one still believes that lame old excuse that we need more and more nuclear development for our own safety and protection, do they!? That's nonsense. Instead, it's pushing us headlong into destroying ourselves as a nation and as a free people.

215-1

We wring our hands, moaning and groaning, over our out-of-contol monumental deficit, cutting corners and trying to balance budgets on the backs of the poor, middle class, and most vulnerable people in our country and our world, and at the same time we want to waste all this money on more "triggers" when, I understand, we already have more than enough stockpiled at the Pentax Facility in Texas. And even if in our madness we think we need more, our present Lab has the ability to continue producing more than we could ever possibly make use of..

215-1 NNSA acknowledges that there is substantial opposition to nuclear weapons. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 215 (cont'd): Rose Ann Kaiser

I apologize if the tone of my letter offends you. I don't mean any disrespect for you as a person. I only hope that all those responsible for this proposal and its implementation will reconsider this ill-advised waste of money.

Thank you for your consideration.

Rose Ann Kaiser
rakaiserolvm@juno.com

Response side of this page intentionally left blank.

Commentor No. 216: Nicole Rund

From: Nicole Rund [nicole.rund78@gmail.com]
Sent: Tuesday, June 28, 2011 12:49 PM
To: John Tegtmeier
Cc: Nicole Rund
Subject: CMRR-NF SEIS Comments

6/28/2011

With ever-increasing economic struggles at home, workers' rights being taken away and life in general going down the toilet, we DO NOT NEED more government funding of nuclear facilities. s a society, as humans on the brink of disaster, we must move from a stance of war and mass killing to a stance of peace and harmony. We don't need new pits for plutonium production, we need better schools. We don't need to be continuously prepared to kill all 6 billion people simultaneously, we need better health care. We don't need to be poised to strike like a cobra with deadly intensity, we need to take of the earth and nature for our generation and many generations to come. By expanding plutonium production we are basically assuring mutually assured destruction, whether it be a quick nuclear bomb to destroy an "enemy" or a slow painful sickening death that destroys American people through contamination of our soil, water or air. Either way, I want NO part of it! *216-1*

Nicole Rund
San Diego, CA 92115

216-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.   The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 217: Don Hyde

From: don hyde [hydedw@gmail.com]
Sent: Tuesday, June 28, 2011 12:01 PM
To: NEPALASO@doeal.gov
Subject: CMRR-NF SEIS

Dear Mr. John Tegtmeier, CMRR-NF SEIS Document Manager:

Our federal government has been publicly stating for decades the need to reduce the number of nuclear warheads among the possessing nations, and rightfully so! Non-proliferation is and has been our policy.

Therefore, WE DO NOT NEED THIS EXPANSION OF THESE PLUTONIUM PITS ("pit-build, pit-surveillance, pit-certification," etc.)! **217-1**

WE DO NOT NEED THIS PROPOSED FOUR-FOLD EXPANSION OF PITS!

We, also, should not be wasting $6 billion for a new CMRR-NF! **217-2**

As previous radiological and other contamination at and unfortunately around Los Alamos has not been cleaned-up, AS USUAL BY NUCLEAR ACTIVITIES, no work on a new CMRR facility should commence.. **217-3**

Therefore, I respectfully request that this SEIS be scrapped and a new EIS be developed for a safe upgrade of the **217-1 cont'd**

CMR.

Thank you, Don Hyde
PO Box 3051
Gallup NM 87305

217-1 NNSA acknowledges that there is substantial opposition to nuclear weapons. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

217-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

217-3 NNSA intends to continue to implement actions necessary to clean up past contamination at LANL regardless of decisions made on the proposed construction of the CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 218: John Stratton

From: John Stratton [jstrat@ashland.edu]
Sent: Tuesday, June 28, 2011 11:28 AM
To: nepalaso@doeal.gov
Subject: Plutonium Pit Facility at Los Alamos

Expanding the United States' nuclear weapons production capabilities is wrong-headed. We continue to believe that we alone can build our own security. We should be, as the President and many others have said, working to create a world without nuclear weapons. *218-1*

Further, as I understnd the details of the current proposal, it puts the enviornment at signficant risk. Once again we appear to be willing to risk the health of minorities and indigenous peoples. *218-2*

I agree with others who say that one of the alternatives to be considered should be "taking no action," as all of the currently considered actions support building this facility which will endanger the enviornment and contriute to nuclear proliferation. *218-3*

John Stratton
213 Samaritan Ave.
Ashland, OH 44805

218-1 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

218-2 Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. These impacts would be minor. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

218-3 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

Commentor No. 219: Virginia J. Miller

From: Virginia J Miller [vjmopus@cybermesa.com]
Sent: Tuesday, June 28, 2011 10:11 AM
To: NEPALASO@doeal.gov
Subject: Comments on the draft SEIS for proposed CMRR-NF at LANL

John Tegtmeier, CMRR-NF
SEIS Document Manager
NNSA Los Alamos Site Office
Los Alamos, New Mexico

I strongly oppose any further construction of the CMRR-NFat LANL. There is simply no reason to build a facility to manufacture 80 pits a year when a Jason study argues that existing pits in nuclear weapons will last 80 years or more, while our nation upholds U.S. nuclear treaty obligations and works for global nuclear abolition. Therein lies our greatest security. **219-1** A complete, new Environmental Impact Statement is needed, including a true "No Action" alternative of not building the CMRR-NF at all, especially in an earthquake zone. **219-2**

The costs of attempting to build a plutonium pit production facility in a geologically unstable area is just too great. It will take resources away from cleanup efforts of legacy wastes at LANL and just add to the radioactive contamination and health risks. Robin Collier, President of NGO Cultural Energy captured the views of technical experts willing to speak up about "the extreme dangers of a nuclear facility in an earthquake zone." Robert H. Gilkeson, registered geologist, stated after intensive research that the SEIS must be retracted by DOE because it does not provide accurate knowledge of the seismic hazard. It is incomplete and inadequate underestimating and misrepresenting the seismic hazard at the site of the proposed CMRR-NF.

Six key parameters must be investigated in order to characterize the seismic hazard needed for an effective building design: the fault locations, the fault geometry, the direction of the slip on the faults, the maximum magnitude of an earthquake, the rate at which earthquakes reoccur on the faults, and kappa, a key parameter for ground motions at specific LANL sites. Field studies are required to obtain this information. LANL scientists recommended these studies in 1995, 2007 and 2009, but the studies were not done. Gilkeson said "DOE must perform the field studies that are identified as important by the LANL scientists in order to calculate the seismic hazard." **219-3**

I support a true "No Action" alternative in a new EIS. Thank you for your careful attention. **219-2 cont'd**

Virginia J. Miller
125 Calle Don Jose
Santa Fe NM 87501

219-1 NNSA notes the commentor's opposition to the construction of the CMRR.NF. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

219-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967).

219-3 NNSA intends to continue to implement actions necessary to clean up past contamination at LANL regardless of decisions made on the proposed construction of the CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Commentor No. 219 (cont'd): Virginia J. Miller

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Responses to comments made by Robert H. Gilkeson and CCNS can be found in comment letters 241 and 315. The 2007 and 2009 probabilistic seismic hazard analyses represent the best knowledge to date on the seismic hazard at LANL, with the uncertainties appropriately incorporated. The results of these evaluations have been included in the design of the CMRR-NF and, as such, incorporated into the estimated cost of the facility.

Dozens of mapping studies of the Pajarito fault system have been conducted, including state-of-the-art, high-precision mapping in the vicinity of LANL, as discussed in response to comment 241-10. In addition, numerous paleoseismic trench investigations have been conducted at 17 sites over the past 20 years. Additional study of these areas would likely improve our understanding of the fault and could help reduce uncertainties in the inputs, but these studies are not a prerequisite to conducting a probabilistic seismic hazard analysis or determining design-basis ground motions at LANL. The uncertainties in regards to fault geometry, rupture behavior, and sense of slip on the Pajarito fault system were fully recognized and addressed in the range of inputs to the probabilistic seismic hazard analysis. Preferred maximum magnitudes for both simultaneous and synchronous ruptures were estimated using the same general approach, which has a sound technical basis, as discussed in the response to comment 241-15.

Commentor No. 220: Mary Lou Kraft

From: Mary Kraft [mitzi919@yahoo.com]
Sent: Tuesday, June 28, 2011 10:15 AM
To: NEPALASO@doeal.gov
Subject: LANL

Do not bring any more plutonium into our State. We do not want the new pit facility *220-1*

Mary Lou Kraft

220-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 221: Joanna Graham

From: Joanna Graham [jograham@lmi.net]
Sent: Wednesday, June 29, 2011 12:29 AM
To: John Tegtmeier
Cc: Joanna Graham
Subject: CMRR-NF SEIS Comments

6/28/2011

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

How much more bad news about nukes gone awry can we take? Please do not license a new plutonium facility (not to mention that it's time for nuclear weapons to GO AWAY; they make the world less safe, not more so, as should be clear to everyone by now).

How sad (or possibly, from a cosmic view, funny) that human beings are so clever without, apparently, the capacity for forethought. We are not long on earth as a species, as our human-caused climate change intersects with our ongoing fascination with splitting the atom. *221-1*

I hope there is no major disaster this time around. PLease don't make things even worse than they already are.

Joanna Graham
Berkeley, CA 94702

221-1 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 222: Virginia Trujillo

From: Virginia Trujillo [vatiav@aol.com]
Sent: Wednesday, June 29, 2011 12:03 AM
To: NEPALASO@doeal.gov
Subject: Are we listening?

I do believe that nature is weighing in on the question of whether Los Alamos laboratory should flex even more muscle in its capability to destroy human life. First there was Japan (Hiroshima and Nagasaki) more than half a century ago. Then Japan again in its futile attempt to withstand natural forces in its efforts to safely harness this destructive force. And to further punctuate the point...the fires that have erupted in N.M. over this weekednd. Sunday evening from my vacation home in Santa Fe, I could see the see the western horizon red rimmed... this could be seen as an eery preview of a different fiery eruption from Los Alamos Nuclear Laboratory if unrelenting seismic forces have their way with supposedly indestructible concrete vaults. I was able to board a plane the next day and escape from Santa Fe and head for California. But in a worst case scenario, escape? Who? Where? Why?

I wonder what the ultimate motive is for this leming-like drive to anhilate the planet. Perhaps if we understand the motive we can stop it at its roots. Maybe we should be listening more intently to nature.

222-1

Virginia Trujillo
3201 Pueblo San Lazaro
Santa Fe, New Mexico 87505

222-1 NNSA notes the commentor’s concern about the accident that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant. But there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 223: Claudia Ziermann

From: claudia ziermann [suwish37@yahoo.com]
Sent: Tuesday, June 28, 2011 11:49 PM
To: nepalaso@doeal.gov
Subject: No more nuclear weapons facility!!

Please stop everything nuclear before it's too late!!!!!!!!!!!!!!!

It's not worth the risk...if things go wrong.........

OPEN your eyes and look around.......!!!!

Are we killing ourselves and our children-?? *223-1*

claudia ziermann
1020 calle venezia
san clemente, CA 92672

223-1 Comment noted.

Commentor No. 224: Lisa Putkey

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico, 87544
E-mail: NEPALASO@doeal.gov

June 28, 2011

Dear NNSA,

My name is Lisa Putkey and for the past year I've been living in Chimayo, NM (downwind of LANL) and volunteering with a youth organization called Think Outside the Bomb. We are a national network that works to educate, train, and mobilize youth around environmental justice issues in their communities, focusing on the impacts of the nuclear-military-industrial complex.

224-1

I have been told that writing these comments is a waste of my time. That it won't make a difference. That you are already moving forward with the construction of the CMRR-NF, probably awarding Bechtel the billions. I've been to the "public comment" periods that you that you do a horrible job of community outreach for. Seen my community members spill out their hearts as you watch your stop watch ready to cut them off. We usually don't receive replies to our comments and they are mostly considered "not applicable." There is no dialogue and then the decision is made for us. The whole EIS process seems to be a façade for you to cross off "involved local communities" on your list before moving forth with a wasteful, unnecessary suck of resources, violating the earth and putting communities at risk to turn a profit. How can you expect downwind multilingual communities to digest two encyclopedia sized binders of EIS technical information in such a short period? Communities that also don't just happen to be low income with struggling education systems, drug abuse problems, high unemployment, and more than curious health complications. But we're not supposed talk about the interconnections between LANL, its projects, and the social ills of our communities. The fact that 10 years after the original EIS was completed, during which time the size and scope of the CMRR project changed, a telling seismic study of the site was released, and the cost of construction skyrocketed 1000%, you are doing only a SUPPLEMENTAL EIS and getting away with it is criminal. Please cease all construction on the CMRR until a new Environmental Impact Statement is completed; you yourselves don't even know how to construct it yet! The following are reasons why I and many others feel that the CMRR-NF should not be built. It may just bounce off your ears, but know that our voices are making ripples in the community.

224-2

Science is not infallible; unexpected mistakes, accidents, and natural disasters do happen. As I type this a fire rages at the border of Los Alamos and the entire city has been evacuated. The 2000 Cerro Grande Fire burned up parts of Area G at LANL and spread radioactive toxins in a thick black plume that went all the way to Taos. Afterwards, San Ildefonso Pueblo members were warned to not burn wood from trees on Pueblo land

224-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The proposed CMRR-NF is not being constructed at this time; there are several factors (such as environmental consequences and cost) that NNSA will take into consideration when making its decision. 40 CFR 1503.3, "Specificity of Comments," identifies the nature of comments to be received on an EIS. Comments on an EIS or on a proposed action shall be as specific as possible and may address either the adequacy of the EIS or the merits of the alternatives discussed or both. NNSA acknowledges the commentor's concern that public comments in hearings may be deemed "not applicable" to the NEPA comment process required in Section 1503.3. However, each comment is heard and/or read and responses to comments pertaining to the EIS are provided in this CRD.

In accordance with CEQ "Regulations for Implementing the Procedural Provisions of NEPA, Commenting, Inviting Comments" (40 CFR Part 1503.1), after preparing a draft EIS and before preparing a final EIS, the agency shall request comments from the public, affirmatively soliciting comments from those persons or organizations who may be interested or affected. Section 1503.4, Response to Comments, specifies that an agency preparing a final EIS shall assess and consider comments both individually and collectively, and shall respond to those comments.

In response to requests for additional review time, the comment period was extended by 15 days to a total review time of 60 days. NNSA believes this allows a sufficient period of time to provide comments on the *Draft CMRR-NF SEIS*. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

NNSA is aware of the issues that local communities struggle with, such as education and drug abuse. NNSA has an outreach program to interact with the communities near LANL and takes its social responsibilities seriously.

NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 224 (cont'd): Lisa Putkey

indoors because they had been contaminated with radioactive materials. The GTCC EIS Pueblo Views on Environmental Resource Areas states that "The Cerro Grande fire also increased post-fire storms' runoff flows in some drainages more than 1,000 times the pre-fire levels. These higher runoff flows increased erosion and moved radioactive and hazardous materials downstream towards the Pueblo people." Natural disasters do happen, and will only increase with global warming. There are many fires ablaze in the southwest right now thanks to the climate-change-induced drought we experienced this year. Severe weather conditions and natural disasters will only increase over the years to come as a result of Global Warming. In a time with the Fukishima nuclear power plant crisis, and the Nebraska plant threatened with flooding, we should not be expanding and entrenching nuclear weapons facilities. We should especially not be doing so at a site that resides on a layer of fragile volcanic ash over intersecting fault lines. A 2007 study showed that seismic activity is going to increase in this site that lies between a dormant volcano and a rift valley, with canyon fingers that flow to the Rio Grande. The only seismically safe option is to not build the CMRR-NF in Los Alamos. ***224-2 cont'd***

Scientific interest is driven increasingly by the interests of corporations and military and is taken for granted as the gap between the layman and technician grows, leaving science an undemocratic sphere controlled by a handful of experts and power holders. This is true at LANL where the priority over the next 15 years will be Bechtel's cash cow, the CMRR. I believe LANL should instead prioritize clean-up of legacy waste and sciences that are life-sustaining. Furthermore, Federal funding to Northern New Mexico would be better spent on education, healthcare, green jobs, and investment in the youth. ***224-3***

The nuclear legacy in the United States is one of racism and environmental injustice. From mining to power to weapons to waste, the nuclear chain has had extreme health and environmental consequences for the communities surrounding and working at the numerous nuclear sites across the U.S. The radioactive burden has been placed disproportionately on indigenous communities and communities of color. Los Alamos National (Nuclear Weapons) Laboratory is located on the seized native land of the San Ildefonso Pueblo, on top of mountains that are sacred to the surrounding indigenous Pueblos. The predominantly Native and Chicano Espanola Valley in which I live and work, lies down wind of Los Alamos. The land, air, and water have suffered due to both routine and accidental releases from the lab's activities. The communities understand that they have been impacted by the LANL operations; there are antidotal stories of cancers and strange illnesses. ***224-4*** Yet in the past 68 years there have been no government health studies conducted of residents in the Espanola Valley. ***224-5***

According to the Los Alamos Historical Document Retrieval and Assessment (LAHDRA) Project, a 13- year research effort by the Center for Disease Control and Prevention, radioactive plutonium releases into the community from LANL during a five-year period of time exceed all releases from the entire existence of Hanford, Savannah River, and Rocky Flats (which was closed due to contamination) facilities combined. To ask this historically poisened community to now bear the burden of a 6 metric ton vault for plutonium, which will triple their current holding capacity is an environmental injustice. ***224-6***

224-2 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1 of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding the commentor's seismic concerns, the geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers

Commentor No. 224 (cont'd): Lisa Putkey

The CMRR-NF poses major environmental and health threats to communities in Northern New Mexico with more emissions, waste generated and water usage. LANL will create more toxic waste, when they have still failed to clean-up their routine and accidental contamination from the past. For example, Area G is one of the LANL sites where radioactive, toxic and hazardous waste lies buried in unlined trenches dug into the volcanic geologic formations. Area G is leaking and in need of intensive evacuation and clean-up. **224-7**

In my vision of social change the voices of downwinders are central to nuclear policy decisions and LANL should be accountable to Northern New Mexico, taking responsibility for clean-up and thorough public investigations on how the health of the Northern New Mexicans have been affected by their operations. I would like to see Northern New Mexican community members with access to the resources to do their own environmental monitoring. **224-8**

CMRR-NF will quadruple U.S. ability to produce new plutonium pits, the cores of nuclear weapons. A new facility that will "modernize" nuclear weapons actually means building *new* nuclear weapons, the opposite of disarmament. While President Obama's rhetoric calls for nuclear disarmament and international cooperation, the CMRR-NF sends a contradicting message to the international community and erodes US credibility. In this nuclear age, the United States has a legitimate need for security. The manner in which the United States seeks to secure itself through military supremacy, however, creates a self-perpetuating culture of violence that is unsustainable, negates the security of those it aims to protect, and encourages others to follow suit. The goal of security and freedom from fear is in reality undermined by the policies of nuclear deterrence and preemption, and US funding and effort would better be spent on disarmament, strengthening global cooperation, and programs of social uplift, which are cut as federal funding rolls to the war machine. **224-9**

Lastly I work with youth and being only 25 years old myself, we think about the future that the NNSA is leaving for us, and with your current escalation of nuclear weapons facilities, it is a grim future. Please, clean-up, don't build-up. We in the Espanola Valley need good green jobs, not Bechtel's crumbs. We want a healthy environment in which to raise our families, not a poisoned one continually at risk of nuclear catastrophe.

Sincerely,

Lisa Putkey

Organizer, Think Outside the Bomb
Email: lisaputkey@gmail.com
Phone: 650-303-1353
Mailing Address: 1940 Willow Way
San Bruno, Ca 94066

occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA acknowledges the commentor's concerns that climate change may increase the frequency of wildfires and decrease the availability of water. Based on public comments, Chapter 3 has been revised to include a description of the types of environmental changes that could occur near LANL due to global climate change.

224-3 The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on LANL legacy waste cleanup. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Regarding the commentor's concern about funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense, education, healthcare, and "green jobs") and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

224-4 Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

224-5 It is not within the scope of the *CMRR-NF SEIS* to perform a government health study of the residents in the Española Valley. However, Chapter 3, Section 3.11.4, shows the cancer rates for the counties surrounding LANL

Commentor No. 224 (cont'd): Lisa Putkey

and the Agency for Toxic Substances and Disease Registry issued a study of the health effects of LANL operations, in 2006, and concluded that, "Overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities. In some time periods, some cancers will occur more frequently and others less frequently than seen in reference populations. Often, the elevated rates are not statistically significant" (ASTDR 2006). Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives. See also response to comment 224-4.

224-6 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF.

224-7 In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Chapter 2, Section 2.2.6, of the 2008 *LANL SWEIS* summarized progress made in environmental restoration since 1999 (DOE 2008a) and more-recent progress is summarized in Section 2.5, Cleanup and Waste Management, of this CRD. For more information on LANL's ongoing environmental restoration program, please see the latest environmental surveillance report, which can be accessed at http://www.lanl.gov/environment/all/docs/reports/. Cleanup of Material Disposal Area G in TA-54 and the methods being used to bury low-level radioactive waste there are beyond the scope of the *CMRR-NF SEIS*.

Commentor No. 224 (cont'd): Lisa Putkey

224-8 NNSA has taken responsibility for cleanup of LANL, and has signed a Consent Order to accomplish this goal. Please see Section 2.5, Cleanup and Waste Management, of this CRD for more information regarding this agreement. NNSA publishes an annual report available to the public that summarizes the environmental surveillance activities at LANL, as noted in the previous response to comment 224-7. While NNSA does not provide monitoring equipment to the community, NNSA does work with the Northern New Mexico Citizens Advisory Board (NNMCAB). NNMCAB is a DOE-chartered site-specific advisory board whose purpose is to provide independent advice and recommendations to DOE regarding LANL's corrective action and waste management activities and associated environmental issues. It is composed of citizens representing the communities and pueblos of northern New Mexico. NNMCAB holds monthly public meetings and has chartered a number of subcommittees to address waste management, environmental surveillance, monitoring, and remediation. More information regarding NNMCAB can be found at http://www.nnmcab.energy.gov/.

224-9 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Regarding cleanup and funding priorities, refer to response to comment 224-3.

Commentor No. 225: Allen Ferguson

From: Allen Ferguson [arf2d@earthlink.net]
Sent: Tuesday, June 28, 2011 3:16 AM
To: NEPALASO@doeal.gov
Subject: LANL CMRR-NF SEIS

Mr. John Tegtmeier
Document Manager
U.S. Department of Energy
National Nuclear Security Administration

Dear Mr.Tegtmeier:

This is to provide you with my comments concerning the Supplemental Environmental Impact Statement (SEIS) concerning the proposed Chemestry and Metallurgy Research Replacement project (CMRR) at LANL.

My first comment is that although there is some mention in the draft SEIS of enahnced fire protection systems, it appears that insufficient inquiry and analysis has been done concerning the potential environmental and human health effects of a major wildfire on the proposed facility and associated operations and facilities. This issue of course is brought to the fore by the Las Conchas fire that is now raging near, and threatening, the Lab and the Los Alamos townsite. A similar wildfire threat occurred in the year 2000 (the Cerro Grande fire), and that should have provided the impetus for a thorough analysis of direct and indirect effects of wildfires on the proposed structure and associated structures and operations. Moreover, the possible conjunction of wildfire and other major disastrous or disruptive events, such as earthquakes or terrorist attacks, should be carefully analyzed and considered. & nbsp;For example, it would seem that a wildfire might provide good cover for a terrorist attack or an effort by some individual, organization or foreign government to seize critical nuclear materials or information. Likewise, the confluence of a major earhquake and a serious wildfire could unleash forces not yet contemplated or carefully analyzed, but that are possible and could prove disastrous. *225-1*

My second comment is that the draft SEIS makes it clear that new information since 2004 has resulted in design changes to better protect the prposed CMRR facility from the results of seismic events. This necessarily means that there is genuine concern on NNSA's part about the potential effects of seismic events on the proposed facility. While the plans to use more steel and concrete may help to mitigate the potential effects of earthquakes of a magnitude of up to 7, more intensive earhtquakes are possible. It would seem that the recent Fukujima earhquake experience in Japan teaches that earthquakes of unprecedented magnitude can and do occur. Also that one system failure resulting from such an *225-2*

225-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Chapter 4 of the *CMRR-NF SEIS* presents the potential human health impacts of the proposed alternatives. These impacts have been determined to be small under all of the proposed alternatives except in the event of a severe accident such as a severe earthquake. If such an earthquake were to occur, it would be expected to severely damage the 2004 CMRR-NF or the existing CMR Building under the No Action and Continued Use of CMR Building Alternatives as discussed in Chapter 4, Sections 4.2.11 and 4.4.11, of the *CMRR-NF SEIS* . Assuming this earthquake were to occur at the Modified CMRR-NF, as indicated in Section 4.3.11, the consequences would be much lower and the risk to the public would be small. The CMRR-NF SEIS addresses the potential for intentional

Commentor No. 225 (cont'd): Allen Ferguson

event can lead to others. If, as NNSA has found, there is a fault running beneath the current CMR facility, and the proposed CMRR facility is only about a mile away from the CMR, this is inherently a dangerous situation, and the p ossibility of an earthquake damaging the CMRR facility (if it is placed in TA-55 as proposed) cannot be eliminated. Even if the chance of such an event is very small, the magnitude of its potential adverse effects on the environment and human health are so great that such a plan should be abandoned. ***225-2 cont'd***

My third comment is that there seems to be a serious inconsistency in the draft SEIS report. Specifically, the continued use of the existing CMR building is consirdered a possible viable alternative to the construction of a new CMRR facility, particularly from a fiscal point of view (see p. S-19 of the draft Summary). However, the draft then entirely rejects as an alternative "extensive upgrades to the existing CMR Building" because the extensive improvements that had been proposed for the CMR facility "would be only marginally effective in providing the operational risk reduction and program capabilities required . . ." and needed seismic upgrades would be technically infeasabile. (p. S-20.) These two conclusions seem to imply that while the contined use of the existing CMR facility in its present condition (or with relatively minor improvements) would be a viable alternative (although it "would result in very limited AC and MC capabilities at LANL over the extended period"), continued use of the same facility with extensive upgrades would not be a viable alternative. This makes no sense. The conundrum it creates seems to be tailored to support a foregone conclusion, namely that the modified CMRR plan is the only way to go. That is, true alternatives were not seriously considered. ***225-3***

My fourth comment is to point out the extreme danger to public health and the environment posed by the the draft SEIS contemplating the continued use of the existing CMR facility for nuclear weapons and other nuclear work for several years into the future -- until a transition to the new facility is complete -- despite NNSA's conclusion that the CMR sits atop a seismic fault and was poorly constructed in the first place, by today's standards. In fact, the main presenter from NNSA at the informational meeting held in Taos a couple of weeks ago at one point referred to the existing CMR buliging as a "tinker toy" structure that would not withstand a seismic event. If this is the case, all nuclear material should be removed from that facility immediately and stored in some secure place or disposed of in the safest manner possible. ***225-2 cont'd***

My fifth comment is that the process for obtaining public comment on the draft SEIS was unfair and unreasonable in that no formal hearing was held in Taos, or anywhere in Taos County, even though Taos is a community nearby to Los Alamos and many of whose residents have a great interest in what goes on at LANL. ***225-4***

destructive acts in Chapter 4, Sections 4.2.10.3, 4.3.10.3, and 4.4.10.3, and Appendix C.

225-2 For seismic concerns, see response to comment 225-1.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. But there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

225-3 During the public comment period on the *CMRR-NF SEIS*, concerns were expressed regarding the alternatives considered in the *Draft CMRR-NF SEIS*, including the comment that the Continued Use of CMR Building Alternative could not really be considered a viable alternative for implementation. Chapter 2, Section 2.7, of the *Final CMRR-NF SEIS* has been expanded to include additional information on why it is not technically feasible to upgrade the existing CMR Building. This building is nearly 60 years old and parts of the building lie over a known fault trace. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

225-4 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR Project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number

Commentor No. 225 (cont'd): Allen Ferguson

Hearings were held in other affected and interested nearby communities, but not Taos, thereby leaving Taos citizens who wished to comment orally without an effective voice. This procedural defect should be cured by holding a public hearing in Taos. ***225-4 cont'd***

It seems at least a theoretical possibility, based on factors such as those stated above, that a thorough, balanced and well reasoned SEIS would come to the conclusion that all proposed alternatives result in unacceptable levels of risk to human health and the environment. It also seems that such a result should not be automatically precluded based on purely procedural considerations. What happens if the conclusion is that none of the proposed alternatives is viable in terms of adequately protecting the environment and human health? ***225-5***

I appreciate your taking my comments on this extremely important topic into consideration.

Allen Ferguson
arf2d@earthlink.net

of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

225-5 See the response to Comment 225-1.

There are several factors (such as environmental consequences of the alternatives and cost) that NNSA takes into consideration when making its decision. If it is determined that none of the alternatives are viable in terms protecting human health and the environment, then NNSA would need to reconsider the alternatives analyzed, with possible additional NEPA evaluations needing to be performed.

Commentor No. 226: Alice Ryan

From: Alice Ryan [aliceryan@yahoo.com]
Sent: Monday, June 27, 2011 11:18 PM
To: NEPALASO@doeal.gov
Subject: No to Plutonium Bomb Plant

No to any increase in nuclear armament.

Our taxpayer funding is For people-health care, education, housing and not for nuclear weapons. *226-1*

Alice Ryan
86 Eden Rd
Stamford, Connecticut 06907

226-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the commentor's concern about funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense, education, healthcare, and housing) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 227: Anonymous

June 25, 2011

Hello,

I'd like to leave a comment about the Metallurgy lab at Los Alamos. I am a concerned citizen, a long-time northern New Mexico resident, and I am definitely encouraging you to not build this facility. Okay?

It's time for us to move in a different direction in this country and on this planet. Six billion dollars is a lot of money and we could apply that money and help ourselves with renewable energy and not moving in a way of weapons and weapons research and plutonium pit manufacturing. Alright?

So it's time guys. Let's move our energy and our funds in a different direction. Please do not continue to poison the earth and its residence with plutonium pit factories that are unnecessary.

Thank you so much. Have a great day.

Anonymous

227-1

227-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort.

Commentor No. 228: Claire Lovelace

From: nepalasoClaire Lovelace [clairejlovelace@embarqmail.com]
Sent: Monday, June 27, 2011 12:28 PM
To: nepalaso@doeal.gov
Subject: Opposition to new plutonium pit facility

I am totally opposed to NNSA's proposal for a new plutonium pit facility at Los Alamos.

First, our country does not need 80 new plutonium pits annually. Without a nuclear arms race, the production limit implemented by DOE in 1999 should be more than adequate. ***228-1***

In addition, building the pit would be a threat to the health and safety of people who live downwind and downstream. Plutonium is a well known carcinogen. It is a vicious pollutant as well. ***228-2*** The impact on Native peoples and Hispanic New Mexicans at Los Alamos is already disproportionate.

The draft Supplemental Environmental Impact should be withdrawn; it is premature. ***228-3***

Claire Lovelace
113 Heritage Place Dirve
Jonesborough, TN 37659

228-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF.

228-2 The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. As discussed above, see Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* for more information on the potential human health impacts of the proposed alternatives.

228-3 The environmental impacts analysis in Chapter 4 of the *CMRR-NF SEIS* evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area. The potential impacts on environmental justice due to construction (except for the Continued Use of CMR Building Alternative) and operations are addressed in Sections 4.2.11, 4.3.11, and 4.4.11. These analyses show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse impacts during implementation of any of the alternatives. There is no reason to withdraw the *CMRR-NF SEIS*.

Commentor No. 229: Carol Green

From: Carol E Green [cergreen@charter.net]
Sent: Tuesday, June 28, 2011 4:20 PM
To: NEPALASO@doeal.gov
Subject: Draft S-EIS for CMRR-NF: comment

Comment on the National Nuclear Security Administration's Draft Supplemental Environmental Impact Statement for the Chemistry and Metallurgy Research Replacement - Nuclear Facility at Los Alamos National Laboratory

As a United Methodist acting on our Social Principles regarding the universal elimination of nuclear weapons, I urge reconsideration of the construction of new bomb plants in the nuclear weapons complex of the United States.

The wildfires now threatening the vulnerable Los Alamos National Lab again, the current Fukushima, Japan revelation of the inadequacies of nuclear facilities, and the budget crisis of our nation beg the question: Why are new facilities being pursued? *229-1*

The independent review by the JASON assures the reliability of the current U.S stock of plutonium pits for the next 100 years. Going for the capacity to produce 80 warheads/year violates the 1970 Nuclear Nonproliferation Treaty Article VI (to build down at "an early date"), the 1996 International Court of Justice 1996 opinion to meet that obligation, and Article VI of the U.S. Constitution that makes international treaties binding. *229-2*

How can we demand that Iran, North Korea, or any other state (or non-state entity) not produce nuclear weapons when we ignore our nonproliferation promises?

How can we prepare to invest more than $10 Billion on an over-sized CMRR-NF when funds are desperately needed for environmental restoration of weapons communities, schools, housing, education, job training, and other programs that make our world better? *229-3*

A reasonable alternative is to asses upgrading facilities in place. This includes the Y-12 plant in Oak Ridge and the plans to construct a $6.5 Billion Uranium Processing Facility to go along with the CMRR-NF. Stockpile surveillance and facility maintenance can be enhanced by upgrades to meet environmental, health, and safety (seismic, wildfire, tornado, dirty bomb, bio/cyber attack) requirements in a cost-efficient manner. *229-4*

229-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

NNSA acknowledges the commentor's concern regarding the possibility of accidents at the proposed CMRR-NF (for example, could an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant happen at LANL). But there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 229 (cont'd): Carol Green

This S-EIS does not meet the NNSA's obligation to examine the full impact of these plans and ignores the calls to consider the reasonable alternative of upgrading in place in order to build down to zero. ***229-4 cont'd***

Carol Green
3215 Tuckaleechee Pike
Maryville, TN 37803
Member of the Peace with Justice Ministry Team of the Holston Conference of the United Methodist Church

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

229-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information. NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a).

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

229-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Regarding funding priorities of the U.S. Government, see response to comment 229-1.

Commentor No. 229 (cont'd): Carol Green

229-4 Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive and not technically feasible. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions, which were based on a number of considerations including cost, in two Records of Decision published in the *Federal Register* on December 19, 2008 (73 FR 77644 and 77656). The first ROD addresses operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and includes the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building. Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely.

Alternatives related to the Uranium Processing Facility at the Y-12 National Security Site in Tennessee are addressed in the *Site-Wide Environmental Impact Statement for the Y-12 National Security Complex* (DOE/EIS-0387) (DOE 2011a) and are beyond the scope of the *CMRR-NF SEIS*.

Commentor No. 230: Joanne Baek

From: joanne baek [joannebaek@yahoo.com]
Sent: Tuesday, June 28, 2011 5:06 PM
To: NEPALASO@doeal.gov
Subject: Prepare an EIS, Include an alternative for pursuit of deterrence via helping all the world's people

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSAQ Los Alamos Site Office,
3727 West Jeme Road, TA-3 Building 1410, Los Alamos, NM 87544
NEPALASO@doeal.gov

Dear Mr. Tegtmeier,

As I write this from north of Taos, the air outside is thick with smoke from fires burning in the Los Alamos area. With strong winds, that fire spread quickly, even at one point going close to the Los Alamos Lab. With climate change, the risk of fire endangering the lab--the climate here becoming hotter, drier, and more windy--will only increase. If a fire is hard to contain today, tomorrow it may be impossible to contain. This is only ONE of many reasons that a completely new environmental impact study, assessment, and EIS is needed, not a SEIS. Furthermore, I believe, to be a true assessment and a responsible study, the options and alternatives of closing down all nuclear weapon or pit construction must be included as well. *230-1*

Plutonium is a killing carcinogen. People working at the labs and downstream and living in the surrounding area are at risk from this and other products and byproducts of this production. Bombs, rather than protecting, also kill--that is their function. People all over the world are at risk from our nuclear weapon making, whether through deployment (accidental or intentional) or nuclear accident. The logic of building bombs to protect people's lives is faulty: it is the NOT building of bombs, particularly nuclear ones, which can protect people's lives. *230-2*

The ultimate deterrence program is the program whereby people are socially invested and active in the improvement of lives for everyone in the world. It is not by "protecting oneself from others" that one succeeds in self-protection. Rather it is the caring about others and acting on that care (rather than building capacity to harm others) that creates bonds of friendship and mutual caring that is ultimately the best path to safety for all. Please include assessments of social costs and resulting destabiliation, and missed opportunities to stabilize the world, in assessing the costs and harm to human environment and our global relationships in your new EIS. If we were to pursue a role of helper in the world rather than that of a nation powerfully capable of harming, we could usher in profound stability and warlessness. Please put this alternative in your EIS. I believe you will find it to *230-3*

230-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. The options and alternatives of closing down all nuclear weapon or pit construction are not within the scope of the SEIS.

230-2 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

230-3 Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable

Commentor No. 230 (cont'd): Joanne Baek

be the best option, and one with infinate possiblity: wind turbine, solar, and other renewable energy research, could be new areas of specialty for the labs with great benefit everywhere in the world. And renewable energy sources is just one area of benefit to all that we could engage in for stabilizing our world and improving our safely and well-being. **230-3 cont'd**

Thank you for consideration of this perspective.

Sincerely,

Joanne Baek
PO Box 670
Arroyo Hondo, NM 87513

future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, defense and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 231: Patricia Whalen

From: annyaish@annya-ishtara-dance.com
Sent: Tuesday, June 28, 2011 4:29 PM
To: Mr. John Tegtmeier
Subject: Comment on the Draft CMRR-NF SEIS

To Mr. Tegtmeier:

231-1

I am writing in regard to the CMRR-NF SEIS. I am against putting such a facility in Los Alamos for a number of reasons, some of which I will discuss in this letter.

First, Los Alamos is in a geologic fault zone which has been scientifically shown to have an enormous potential for an increase in seismic activity. Think of what recently happened in Japan-what a huge human and environmental catastrophe that has been. We would not want a similar occurance here in the United States. Also the geologic complexity of the Los Alamos area would make it outrageously expensive to build the proposed facility to standards that could begin to meet any reasonable safety precautions. These two points plus the fact that Los Alamos is in a wildfire-prone area make it a completely unsuitable location for a hazardous facility such as the one proposed.

231-2

With these points in mind, the current EIS is out of date and inadequate. At the very least, a whole new EIS needs to be done. However, I believe that no manner of studies and safety precautions can adequately protect from the dangers of radioactivity associated with nuclear facilities. I worry about the health effects on people, animals, and plants downstream and downwind. This actually includes the whole planet. As we know, radioactivity levels all over the world have risen since the incident in Japan. This also occured after the Chernobyl incident. I realize we are not talking about the same kinds of facilities here, but radiation is radiation and lasts for hundreds of thousands of years, never truly disappearing, and leaving many devastating effects in its wake.

231-3

Lastly, the need for a nuclear facility such as the one proposed is moot. Nuclear weapons are obsolete. They do not make a country which possesses them safer. They do not prevent terrorist attacks. On the contrary, they and all facilities associated with them provide potential terrorist targets. Nuclear weapons do not feed or heal people or other creatures. They do not provide any tangible benefit whatsoever.

So for all the reasons above, and more, I ask you not to build the CMRR-NF in Los Alamos or, in fact, anywhere at all.

Respectfully,

Patricia Whalen

231-1 NNSA notes the commentor’s opposition to pit production and nuclear weapons, and concerns about seismic issues and wildfires.

Regarding seismic concerns, the geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

231-2 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The commentor's concern regarding the health effects of radiation affecting the entire planet is beyond the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. Chapter 4 of the *CMRR-NF SEIS* presents the potential human health impacts of the alternatives. These impacts have been determined to be small under all of the alternatives, except in the event of a severe accident such as a severe earthquake. If such an earthquake were to occur, it would be expected to severely damage the 2004 CMRR-NF or the existing CMR Building as discussed in Chapter 4, Section 4.2.11 and 4.4.11, of the *CMRR-NF SEIS* and result in unacceptable consequences for the public. Assuming this earthquake were to occur at the Modified CMRR-NF, as indicated in Section 4.3.11, the consequences would be much lower and the risk to the public would be small.

231-3 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. President Obama has stated a long-term goal of a world free of nuclear weapons. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain,

<u>*Commentor No. 231 (cont'd): Patricia Whalen*</u>

and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 232: Anne deBuys

From: Anne deBuys [anne.debuys@gmail.com]
Sent: Tuesday, June 28, 2011 8:54 AM
To: NEPALASO@doeal.gov
Subject: comments re CMRR

6/28/2011

To Whom it May Concern:

I would like to go on record in expressing the following comments regarding the proposed construction of the CMRR facility at Los Alamos National Laboratories.

232-1

A Complete, New Environmental Impact Statement is Needed, Not A Supplemental

Environmental Impact Statement. The original Environmental Impact Statement in 2004 assessed a building designed to withstand only mild seismic events. A 2007 updated seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. I understand that even Lab scientists have expressed grave concerns regarding this matter. Only a full Environmental Impact Statement can adequately study the full consequences of increased possibility seismic events might have on the proposed bomb plant.

This draft SEIS should be withdrawn until the details of the Seismic Risks are better understood and no more funds used for planning at this time.

232-2

Valid Alternatives Must Be Considered in the Supplemental Environmental Impact Statement. DOE must develop and consider new alternatives, including a true "No Action" alternative--not building the Nuclear Facility and upgrading the existing plutonium production building.

232-3

The Costs to Build a Plutonium Pit Production Complex Are Just Too High. The total original estimate for constructing the new nuclear weapons complex at Los Alamos National Laboratory was approximately $600 million in 2004. The current estimate is $5.8 billion.

The US does not need 80 new plutonium pits per year. Just as new seismic information has forced a re-evaluation of the construction, new cost information must force a re-evaluation of the cost.

Thank you for your consideration of the foregoing comments.

Anne deBuys
1815 San Felipe Circle
Santa Fe, NM 87505
(xxx) xxx-xxxx

232-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

232–2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure,

Commentor No. 232 (cont'd): Anne deBuys

and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967).

Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

232-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 233: Carole Gorecki

From: Carole Gorecki [caroleg1776@yahoo.com]
Sent: Wednesday, June 22, 2011 6:29 PM
To: nepalaso@doeal.gov
Subject: Comments on CMRR SEIS

The NNSA's plan to construct new plutonium pits at the Los Alamos Labs is a bad idea. I have listed a number of different reasons why this plan would be harmful and costly:

The costs to build a plutonium pit production complex are too high. the money can be better spent on productive things to help and not to destroy people and things. I am against nuclear weapons.

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

233-1

Carole Gorecki
36500 North Pointe Dr.
n/a
New Baltimore, MI 48047

233-1 NNSA notes the commentor's opposition to construction of the CMRR-NF and nuclear weapons. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on LANL legacy waste cleanup. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 234: Dr. F.D.C Sinclair

From: Fiona Sinclair [rumgumption@yahoo.com]
Sent: Tuesday, June 28, 2011 3:39 PM
To: nepalaso@doeal.gov
Subject: STOP NNSA in Los Alamos

I am deeply concerned by the proposed next phase of building the NNSA facility in Los Alamos, NM. As the Current fire situation demonstrates this is NOT the place for such activity. As the birthplace of the nuclear weapons industry New Mexico is well positioned to advocate for unilateral decommissioning of ALL nuclear facilities rather than ramping up the arms race with more nuclear weapons development. The pollution and hazards associated with such development far outweigh the benefits of shaping a clean and peaceful world. *234-1*

Sincerely

Dr. F.D.C Sinclair

Fiona Sinclair
PO Box 422
Cleveland, NM 87715

234-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1 of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The commentor's opinion on the cost-benefit of maintaining the Nation's nuclear weapon stockpile is noted.

Commentor No. 235: Sasha Pyle

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager
USDOE/ NNSA
Los Alamos Site Office
3747 West Jemez Rd.
Los Alamos, NM 87544

I have lived in Northern New Mexico for most of my life. For nearly a quarter of a century I have been closely following the nuclear weapons complex and its production and waste agendas in my state. I have spent thousands of hours poring over environmental impact statements, maps, hydrologic and geologic studies; attending hearings and encouraging others to do so; testifying in Congress and meeting with elected and agency representatives in Washington, D.C.; reading, writing and editing reports, newsletters and fact sheets; and speaking publicly about the dangers posed to our fragile environment and our sinking economy by the wasteful and destructive programs of the Department of Energy and more recently its semi-autonomous National Nuclear Security Administration.

The United States has invested over six trillion dollars in the nuclear deterrent since World War II. We already have an enormous stockpile of weapons that can remain dependable for decades to come. If we continue to pour tax dollars into new weapons design and manufacture, what do we really get for this "investment"? The endlessly ballooning costs of each and every DOE program, the changes, alterations and scrapped designs, the buildings erected and then torn down, the warheads built, stored, maintained and then dismantled…these represent an appalling disregard for the public that foots the bill.

235-1

The proposed CMRR nuclear facility, in all its terrifying scale, represents the culmination of decades of wasteful and destructive practices by the weapons industry. The only purpose of this monstrosity is to enable a level of plutonium pit manufacturing that has nowhere been deemed necessary for national security. Enhancing our existing arsenal with new designs of warheads, or re-designed warheads boasting increased military capabilities, only serves to waste taxpayers' money, further pollute our land and water with dangerous chemicals and radioactive materials, and fly in the face of our nation's treaty obligations in a highly provocative and visible manifestation of the very proliferation we decry in other countries.

235-2

Is there a reason why the CMRR's environmental impact statement simply overlooks the option of scrapping this facility altogether? Why can the public not be provided this alternative to evaluate? When did this alternative get ruled out? And by whom?

It seems to me that the loss of a no-action alternative from the impact statement constitutes a flagrant violation of the National Environmental Policy Act, a piece of federal legislation that was designed to protect the public from the very real dangers that large-scale industrial facilities pose to health and natural resources.

235-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. In addition, the purpose and need for the CMRR-NF is not tied to the level of pit production.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

235-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967).

Commentor No. 235 (cont'd): Sasha Pyle

When DOE and NNSA hear "no" from the public and Congress on controversial facilities and programs, those facilities and programs continue to reappear under slightly different names and with expensive PR makeovers--over and over again, engendering the same tired theater of debate and bureaucratic wrangling that never seems to accomplish any meaningful policy decisions. **235-3**

As I write today, Los Alamos National Laboratory is once again threatened by a massive wildfire, one that already dwarfs the 2000 Cerro Grande Fire in growth rate and potential destruction. I question whether Los Alamos is a safe place to construct any new facilities that would house large quantities of dangerous nuclear materials.

I absolutely dispute the need for this multi-billion-dollar boondoggle bomb factory and decry its location in a seismic hazard zone and tinder-dry high mountain woodland that may continue to be swept by massive wildfires as the Southwest enters a cycle of heightened drought. **235-4**

Stop endlessly re-designing this unneeded facility and turn Los Alamos and the other national Labs toward work that actually needs to be done.

There is plenty to do in the realm of nuclear work, with on-going requirements to locate, track, isolate and stabilize existing weapons-grade nuclear materials, maintain our existing stockpile, and dismantle and dispose of excess weapons—which we possess in abundance if our international agreements are to be honored. **235-5**

Cleanup of the national nuclear weapons complex is habitually underfunded, resulting in missed targets and deadlines, and widening environmental impacts of inadvertently dispersed radioactive and chemical materials that continue to threaten human life, wildlife, and natural resources near every site, currently functioning or used in the past, for bomb production. The Labs should actively work on accelerating cleanup and environmental remediation of DOE sites across the U.S. **235-6**

There is also plenty of other work to do in this world, which would benefit greatly from the human intelligence and technically capable infrastructure that the Labs could provide. Water quality and harvesting; energy independence; improving, protecting and maintaining infrastructure; technologies that lead to more energy-efficient buildings and transportation modes; technologies for adapting to climate shifts; advances in medical technologies; breakthroughs in techniques for remediating environmental damages from the past—the list could be quite long.

If Northern New Mexico is so desperate for jobs that we would appear to welcome any program offering even meager employment, why can't the so-called brilliant minds at the Laboratory conceive of and launch beneficial programs and facilities offering said employment *without* the absurd waste of money and certain environmental damage posed by outdated and overblown ideas like this blundering CMRR facility? **235-1 cont'd**

235-3 NNSA considers all public input obtained during the public comment period. NNSA must carry out its mission as assigned by the President and Congress.

235-4 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

235-5 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility.

Commentor No. 235 (cont'd): Sasha Pyle

If average Americans all over this nation were really aware of how much of their weekly paychecks went to weapons programs that are cloaked from scrutiny by the magic words "national security"—without offering any tangible benefits to our real national security—the voices of outrage would be deafening indeed. Unfortunately, most people are too busy trying to make a living and survive in this perilous economy to take hundreds or thousands of hours to educate themselves about what is really going on at their national laboratories.

People would like to believe that the "experts" and "authorities" know what they are doing. Sadly, the deep channels that a huge flow of money over many decades has carved to the Labs for the purpose of weapons manufacturing have resulted in a "culture" of mindless resource gobbling with no accountability and no standard of practicality. Nothing could embody this tragedy more than the currently proposed CMRR facility.

More weapons and more nuclear waste, more precious resources wasted forever…the real cost of this program can only be measured in the road not taken. What could the United States do to better the futures of Americans and all peoples of the world? Would we benefit from cleaning up the badly contaminated weapons complex? Or should we keep fouling our land, air and water, adding to a mess that has been decades in the making? What do you think most people would prefer?

Turn this boat around now. Stop the CMRR nuclear building and the poorly conceived programs it would house, endlessly transforming needed resources into dangerous trash. The citizens of this nation, and of the world, deserve better.

235-1 cont'd

Sasha Pyle
1672 Cerro Gordo Rd.
Santa Fe NM 87501
xxx-xxx-xxxx
sasha@visiblearts.com

235-6 The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on cleaning up (remediating) DOE sites across the country or LANL legacy waste cleanup. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 236: Debi L. Taylor

From: Debi Taylor [debitaylortaos@yahoo.com]
Sent: Wednesday, June 29, 2011 12:52 PM
To: nepalaso@doeal.gov
Subject: Los Alamos Lab EIS Statement needed

Mr. Tegtmeier and Whom It May Concern:

236-1 The current fire in Los Alamos further proves the need for a new, complete Environmental Impact Statement. It is unconscionable that with the current state of the World reflected by the threats to numerous nuclear plants around the World that further production is even being considered. Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind or downstream (I reside in San Cristobal in Taos County). Federal Funds should be used to fulfill real human needs in New Mexico not spent on nuclear weapons that the World does not need and does nothing to support nuclear arms reduction. No place is safe for such manufacturing but certainly Los Alamos has proven to be an unsafe location. We may live in one of the poorest and unpopulated State of the United States but this in no way justifies sacrificing the well being of our people, our countryside and nation by building a plutonium pit complex in Los Alamos, a geologically unstable area, or anywhere!

Please help fight for a complete, new EIS and fight the building of a new nuclear facility. Let's focus our efforts on cleaning up the mess we already have.

Thank you for your efforts,

Debi Taylor
P.O. Box 146
San Cristobal, NM 87564

Debi L. Taylor
Assistant to William T. Brown
xxx-xxx-xxxx phone
xxx-xxx-xxxx fax
debitaylortaos@yahoo.com

236-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the

Commentor No. 236 (cont'd): Debi L. Taylor

scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA intends to continue implementing those actions necessary to clean up legacy waste sites at LANL regardless of decisions made on the proposed construction of the CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 237: Bud Ryan

June 28, 2011

To Whom it May Concern,

Since the moment my wife and I moved into our house southwest of Madrid I have been concerned about LANL. When the Cerro Grande fire happened the huge plume of smoke almost made it seem that the fire was just a little more than a stones throw away from our property. And of coarse the people of New Mexico (and surrounding States) dodged a bullet when the fire thankfully did not make it to the thousands and thousands of barrels of nuclear waste that the Lab had stored above ground. Did LANL learn its lesson from the Cerro Grande Fire? – NO! because here it is now some eleven years later and there is yet another fire threatening the Lab and the thousands of barrels of nuclear waste that are STILL STORED there above ground. Let us hope and Pray that we are again Blessed and the fire does not burn any areas or buildings that contain dangerous nuclear materials.

I write this in my comments about the Chemistry and Metallurgy Research Replacement building because I want to show that LANL and the people who run it often do not make the most intelligent decisions. To continue to store any barrels of nuclear waste above ground after getting away with it once, shows to me arrogance coupled with ignorance, and now you are asking to build the new CMRR building within a mile of a seismic fault line in the aftermath of the Fukushima catastrophe. How does that make any sense whatsoever? For a species that was able to put a man on the Moon I can't believe that some of us are capable of doing something that stupid! *237-1*

I would also like to know how any of the planned work that is to be done in this new building does not violate the Nuclear Non-Proliferation Treaty? And don't we already have over 10,000 "pits" stored at Pantex in Texas, so why do we need to build any more? *237-2*

I do not want to see the CMRR building constructed in Los Alamos or anywhere else in the United States. I do not want my taxes or the taxes of my fellow Citizens wasted on projects whose aim is to create weapons with the potential to kill millions of my fellow sisters and brothers on our beautiful planet. *237-3*

Sincerely,

Bud Ryan
POB 1594
Cedar Crest, NM 87008

237-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1 of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. However, NNSA has taken actions to mitigate the risks of a wildfire on the domes. In 2000, the Cerro Grande fire burned a heavily forested canyon area to within about 0.75 miles (1.2 kilometers) of the waste storage domes, but none were burned and there were no radiological releases from the domes. The Las Conchas fire reached the southern border of LANL, but did not get within 2 miles (3.2 kilometers) of the domes. Additional fuel reduction has been conducted since the Cerro Grande fire, both to the vegetation surrounding TA-54 and within the domes themselves (for example, wooden pallets have been replaced with metal pallets), to further decrease the potential for a waste storage dome fire occurring as a result of a site wildfire. Furthermore, NNSA has an aggressive program to remove the stored transuranic waste from Area G and ship it to WIPP for disposal.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. But there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear

Commentor No. 237 (cont'd): Bud Ryan

reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

237-2 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

237-3 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 238: Rebecca J. Anderson

June 28, 2011

Mr. John Tegtmeier, CMRR–NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road,
TA–3 Building1410,
Los Alamos, New Mexico, 87544

Dear Mr. Tegtmeier,

I am writing to urge the National Nuclear Safety Administration to consider creating an entirely new Environmental Impact Statement to replace its current draft supplemental statement regarding the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project. A new Environmental Impact Statement would be able to address many issues that the current supplemental statement is missing, such as up-to-date (and consequently, more complete) information on seismic risks as well as other alternatives, such as a "No Action" option to stop the production of a new nuclear facility altogether.

Creating a new Environmental Impact Statement would allow the National Nuclear Safety Administration to become more aware of the seismic risks in producing a new CMRR at the Los Alamos National Laboratory. The 2007 updated seismic hazards analysis showed that the seismic ground activity could possibly grow tremendously. As the Los Alamos National Laboratory sits in a seismic fault zone between the Rio Grande rift and the Jemez Mountains, this is something that should continue to be studied and considered when writing an Environmental Impact Statement. New seismic investigations are currently being conducted at the lab and the subsequent results should be included in any Environmental Impact Statement. If the NNSA continues with its current Supplemental Environmental Impact Statement, when the current investigations are finished, another statement will likely be needed. This process will continue to consume more time and money that could otherwise be focused on improving the safety of pre-existing nuclear facilities. By using these results along with any other updated information to create an entirely new Environmental Impact Statement, the NNSA will be able to present the most accurate and concise information possible to its stakeholders. **238-1**

Additionally, the Department of Energy should consider a "No Action" alternative in a new Environmental Impact Statement. This alternative would halt all plans to create a new nuclear facility. Since the design for this new CMRR is not yet completed, the DOE should reconsider some of its priorities regarding the Los Alamos National Laboratory. For instance, the DOE made a commitment to clean the legacy waste at LANL by 2015. The construction of a new facility will not only distract the DOE from reaching this goal, but it will also add more pollution to the lab. This CMRR will be very costly, as the price tag is rapidly increasing – the estimate of $500 million in 2004 is now up $5.8 billion. Additionally, the nuclear weapons produced at this proposed new CMRR at the Los Alamos National Laboratory would not contribute to the economy and generate revenue **238-2**

238-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Section 2.6, Seismic and Geologic Concerns, of this CRD addresses the commentor's concerns about seismic risks.

238-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure,

Commentor No. 238 (cont'd): Rebecca J. Anderson

the same way other publicly-funded programs such as education or health care could. Dedicating taxpayer dollars allocated to the DOE to improving the cleanup and safety along with upgrading existing facilities may be a much more feasible decision than following through on the plan to create a new CMRR at LANL. **238-2 cont'd**

Finally, the United States Government and subsequently the DOE should consider limiting the number of nuclear weapons produced. Nuclear weapons production only encourages nuclear proliferation domestically and internationally. Nuclear weapons cannot defend against terrorists, as their scope of destruction is much too great to counter attacks from international non-state actors. The larger the number of nuclear weapons, the greater the likelihood of these weapons falling into the hands of terrorists. By decreasing its own arsenal of nuclear weapons, the United States would be setting an example for the rest of the world that nuclear weapons should not be a condoned use of military technology. The 20 plutonium pits manufactured each year since 1999 (per the DOE's decision in 1999 to limit the number produced) have sufficed. The proposed plan for the new CMRR at LANL will allow at least 80 pits to be created. Instead of spending time and money to create this new facility, a study should be conducted to investigate whether existing facilities can meet the DOE's needs. **238-3**

Ultimately, the National Nuclear Safety Administration and the Department of Energy should consider foregoing a Supplementary Environmental Impact Statement in order to collect more data on the seismic risks involving in the proposed Chemistry and Metallurgy Research Replacement Project at Los Alamos National Laboratory. In this process, the possibility of stopping these plans and improving already existing facilities should also be considered. Agreeing to these two ideas could consequently improve the safety and environmental impact of existing facilities while promoting the cause of nuclear nonproliferation. **238-1 cont'd**

Best wishes,

Rebecca J. Anderson
Intern, Alliance for Nuclear Accountability
Student, American University

and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967).

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on LANL legacy waste cleanup. NNSA intends to continue implementing those actions necessary to clean up legacy waste sites at LANL regardless of decisions made on the proposed construction of the CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense, education, and health care) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

238-3 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (75 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium

Commentor No. 238 (cont'd): Rebecca J. Anderson

mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 239: Greg Mello
Los Alamos Study Group

Los Alamos Study Group

Nuclear Disarmament • Environmental Protection • Social Justice • Economic Sustainability

June 28, 2011

Re: **Part I, Comments on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF), DOE/EIS-0350-S1, April 29, 2011**

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From: Greg Mello, Los Alamos Study Group (LASG)

Summary and Background

DOE and NNSA propose to construct a new building, the CMRR-NF[1], currently expected to cost $4.7 to $5.8 billion (B),[2] for the primary purpose of increasing the rate of manufacturing nuclear warhead cores ("pits") at Los Alamos National Laboratory (LANL) in New Mexico. **239-1**

[1] Comprehensive background on this facility is available at http://www.lasg.org/CMRR/open_page.htm.

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239-1 The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium facility. The estimated cost of the CMRR-NF has increased since originally proposed, primarily because of the changes made in facility design to address seismic and safety requirements. These changes are the subject of this SEIS. The commentor's assertion that the amount of plutonium that would be handled and stored in the CMRR-NF has increased from 900 grams to 6,000 kilograms is incorrect. In the original *CMRR EIS*, Appendix C, Human Health Impacts from Facility Accidents, 6,000 kilograms of plutonium was used as the material at risk in the analysis of the potential impacts of accidents at the new CMRR Facility (see Section C.4.1 of that appendix) (DOE 2003b).

NNSA disagrees with the commentor's position that the CMRR-NF is not needed. The President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Continuing with the development of the CMRR Facility at LANL supports work needed to ensure that the U.S.'s nuclear weapons stockpile can continue to be managed safely. As noted above, the capabilities of the CMRR-NF support NNSA's plutonium mission.

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The expected cost of this facility has increased more than tenfold since its conception.[3] The required plutonium storage and handling capacity in this facility has increased from 900 grams in 2000 and 2001 (denoting a Hazard Category III facility) to 6,000 kg today.[4]

Our organization has recently provided to Congress extensive background on why this facility is not necessary, and especially not necessary now.[5]

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What was described as a relatively simple building in a 2003 environmental impact statement (EIS) written under the National Environmental Policy Act (NEPA) for the CMRR project[6] has subsequently become a very complex and expensive proposed project. It now has twice the original gross floor area, more than one hundred times the original quantity of concrete, a far longer construction and occupancy schedule (not ready for use until 2023), eight times the original electricity consumption (necessitating new or reworked transmission lines to Los Alamos County), and many other expansions.[7]

As a result of these unforeseen design complexities and expansions, the project currently lacks a final design concept. Two concepts are under consideration: a relatively shallowly-buried building, the foundation of which would be above a thick layer of unstable volcanic ash, and relatively deep one, founded below that unstable layer on welded tuff.

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Of the $787 million (M) appropriated for the CMRR project as a whole over fiscal years (FYs) 2002 through 2011, $458 M has been for CMRR-NF.[8]

In the DSEIS and elsewhere, DOE and NNSA generally insist that the current CMRR-NF requirements, location, size, and timing cannot be changed. Very recently, however, NNSA Deputy Administrator for Defense Programs Don Cook recently warned that "As we go on, if the

[2] White House, "November 2010 Update to the National Defense Authorization Act of FY2010 Section 1251 Report; New START Treaty Framework and Nuclear Force Structure Plans," http://www.lasg.org/CMRR/Sect1251_update_17Nov2010.pdf.

[3] See table of changed value in Mello affidavit of January 14, 2011, paragraph 86, at http://www.lasg.org/CMRR/Litigation/Mello_aff3_14Jan2011.pdf. Earlier cost and completion date estimates ($375 M, by FY2008) can be found in the "LANL Comprehensive Site Plan [CSP] 2001," LAUR-01-1838, July 2001, p. 110, at http://www.complextransformationspeis.com/RM_141%20-%20LANL%202001b.pdf. For completion date slippages, see references at Mello paragraph 86, ibid.

[4] LANL, "Comprehensive Site Plan 2000, p. 33, Tab 2 of references to Mello prepared testimony of April 27, 2011, http://www.lasg.org/CMRR/Litigation/Mello_refs_27Apr2011.pdf. Also, LAUR-02-1786, September 2001, LANL "Ten-Year Comprehensive Site Plan," Table II-2, p. 1, Study Group files.

[5] LASG, May 23, 2011 memorandum to interested parties, "The [CMRR-NF at LANL] should not be built. Even if CMRR-NF were to be built eventually, it should be delayed now. Longer delay would bring greater net benefit – in dollars, program continuity, decreased management risk across the NNSA complex, and otherwise." Available at http://www.lasg.org/CMRR/Mello_Reasons_to_Delay_CMRR-NF_22May2011.pdf.

[6] At http://www.gc.energy.gov/NEPA/finalEIS-0350.htm.

[7] Summarized in Mello affidavit of October 21, 2010 (to that date), http://www.lasg.org/CMRR/Litigation/Mello_aff1_21Oct2010.pdf. Subsequent court submittals and the CMRR-NF DSEIS contain further revelations, some of which are mentioned here and below in the main text.

[8] From DOE congressional budget requests.

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239-2 Subsequent to the original proposal of the CMRR Facility and preparation of the *CMRR EIS*, the Final Report, *Update of the Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the Los Alamos National Laboratory* (LANL 2007), was completed. The seismic hazard analysis for TA-55 was further updated in 2009 (LANL 2009). These reports provided a better understanding of ground motion and seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*). Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials.

239-3 No response necessary.

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cost starts to get near the upper end [of the stated cost range], that will be a clear point for invitation to cut scope."[9]

The House Appropriations Committee (HAC) has recommended $100 million (M) less appropriation than the FY2012 request and no construction in FY2102, pending resolution of major seismic issues, revalidation of requirements, and a decision on whether the LANL management and operating (M&O) contractor is the appropriate entity to manage the project.

> *Project 04–D–125, Chemistry and Metallurgy Research Replacement (CMRR), Los Alamos National Laboratory.*—The Committee recommends $200,000,000, $100,000,000 below the budget request. The Committee fully supports the Administration's plans to modernize the infrastructure, but intends to closely review the funding requests for new investments to ensure those plans adhere to good project management practices. The latest funding profile provided to the Committee indicates that over half the funding requested for the Nuclear Facility would be used to start early construction activities. The recommendation will support the full request for design activities, but does not provide the additional funding to support early construction. The NNSA is not prepared to award that project milestone since it must first resolve major seismic issues with its design, complete its work to revalidate which capabilities are needed, and make a decision on its contracting and acquisition strategies.[10]

239-3 cont'd

This $100 million (M) cut is 90% of the Committee's proposed cuts in NNSA construction, meaning the HAC is almost uniquely targeting CMRR-NF for cuts among all proposed NNSA construction. NNSA had requested $270.1 M for CMRR-NF specifically, the balance of the requested $300 M CMRR budget line to be allocated to completing the first CMRR building, the Radiological Laboratory, Utility, and Office Building (RLUOB).

In its introduction to its markup of the NNSA budget the HAC wrote, in a passage especially germane to NEPA compliance and the DSEIS:

It is incumbent upon the experts at the NNSA to provide a range of options which would meet defense requirements and to ensure that a range of alternatives are considered, taking into account the DOE resource implications of each alternative.[11]

In his opening remarks Subcommittee Chairman Rodney Freylinghuysen (R-NJ) said the proposed bill would cut out from the Administration's request for nuclear warheads

> …hundreds of millions of dollars for construction projects that are not ready to move forward, capabilities that are secondary to the primary mission of keeping our stockpile ready, and yes, slush funds that the Administration has historically

[9] Quoted by Todd Jacobsen, "NNSA Weapons Chief: UPF, CMRR-NF To Meet Budget, Or Risk Scope Cuts," *Nuclear Weapons and Materials Monitor* of June 17, 2011.

[10] FY2012 Energy and Water Bill, Full Committee Report, p. 131, at http://appropriations.house.gov/UploadedFiles/FY_2012_ENERGY_AND_WATER_FULL_COMMITTEE_REPORT.pdf.

[11] Ibid, p. 83.

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used to address its needs. The recommendation before you eliminates these weaknesses and it is responsible.[12]

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In late April DOE and NNSA produced a Draft Supplement to the 2003 CMRR EIS (DSEIS), which is the subject of these comments. Despite all the above concerns, the DSEIS examines no alternatives to the CMRR-NF, which it has already decided to build. Despite extensive prior communication and comment from many parties, these two agencies incorrectly and we believe illegally relegate NEPA to a footnote in the engineering design process for a predetermined agency decision to construct a building of certain precise capabilities, size, and requirements, in a precise location, at a precise time (now).

DOE and NNSA's failure to conduct a full analysis of alternatives to the CMRR-NF project as NEPA requires risks not just billions of dollars in excess spending but also the effective management of NNSA's nuclear weapons programs, and the safety of the agency's workers.

239-4

Comments on the April 29, 2011 CMRR-NF DSEIS

1. Please incorporate by reference all of Plaintiff LASG's pleadings, evidence submitted, and both actual and prepared testimony in Case No. CIV10-760 JH/ACT, LASG v. Department of Energy (DOE), NNSA, Steven Chu, and Thomas D'Agostino, which bear centrally on the process and content of this DSEIS.[13] This includes sworn evidence and testimony regarding the need for, and alternatives to, the proposed CMRR-NF that were by submitted by me, Dr. Frank von Hippel, and Mr. Robert Peurifoy.[14] Please include all supporting references.

239-5

[12] Quoted by Todd Jacobsen, "Budget Battle Heating Up Over House Approps Cuts To Weapons Program," *Nuclear Weapons and Materials Monitor* of June 17, 2011.

[13] Available at http://www.lasg.org/CMRR/Litigation/CMRR-NF_litigation.html.

[14] For reasonable alternatives to CMRR-NF see Mello affidavit of January 14, 2011, paragraphs 83-91, http://www.lasg.org/CMRR/Litigation/Mello_aff3_14Jan2011.pdf, and Mello, "The Proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF): New Realities Call for New Thinking," http://www.lasg.org/CMRR/CMRR_alternatives.pdf. All reasonable alternatives center on usage of the pit production equipment in PF-4, with support functions conducted within PF-4 and at the CMRR Radiological, Utility, and Office Building (RLUOB), and *if desired* also elsewhere, either at LANL or at other sites. The entire "front end" of pit manufacturing, either up to metal production or including casting, could be done at another site, e.g. the planned Pit Disassembly and Conversion Facility (PDCF), as modified, at the Savannah River Site (SRS). Mark Hart, Warren Wood, and David Olivas, "Plutonium Pit Manufacturing Unit Process Separation Options for Rapid Reconstitution: A Joint Position Paper of Lawrence Livermore National Laboratory and Los Alamos National Laboratory," LLNL, LANL, September 6, 1996, cited in Mello affidavit of Jan. 14, 2011, op. cit, at p. 37.

Rationalization of programs, floor space, vault space, and equipment within the existing plutonium facility (Building PF-4) will provide adequate MC capability if it does not already do so. Frank von Hippel prepared testimony of April 27, 2011, http://www.lasg.org/CMRR/Litigation/vonHippel_27Apr2011.pdf. Mello affidavit of January 14, 2011, op. cit., at paragraph 10, citing Tim George, LANL Nuclear Materials Technology Division Director, "Can Los Alamos Meet Its Future Nuclear Challenges? Balancing the Need to Expand Capabilities While Reducing Capacity," *Actinide Research Quarterly*, 1st Quarter 2001 at http://arq.lanl.gov/source/orgs/nmt/nmtdo/AQarchive/01spring/editorial.html, and citing Secretary of Energy Advisory Board (SEAB) Nuclear Weapons Complex Infrastructure Task Force, "Recommendations for

the Nuclear Weapons Complex of the Future," July 13, 2005, p. H-6, at footnote 11 in

239-4 NNSA disagrees with the commentor's characterization of the SEIS NEPA process. NNSA has prepared the *CMRR-NF SEIS* in accordance with NEPA, the CEQ regulations that implement the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE regulations implementing NEPA (10 CFR Part 1021). These regulations require the preparation of a supplement to an EIS when there are substantial changes to a proposal or when there or significant new circumstances or information relevant to environmental concerns. An agency may also supplement an EIS to further the purposes of NEPA. The CMRR-NF SEIS evaluates the environmental impacts of alternatives for satisfying the mission AC and MC requirements, currently provided by the CMR Building, over the next 60 years. Refer to Sections 2.3, Programmatic Direction and Decisions, and 2.11, Alternatives Considered, of this CRD for more information.

239-5 Los Alamos Study Group (LASG) submitted a comment requesting that NNSA incorporate by reference all of its pleadings, evidence submitted and both actual and prepared testimony in *Los Alamos Study Group v. Department of Energy*, Case No. 10-Civ-0760-JH-ACT. Much of this material involves legal contentions and does not comment on the draft CMRR SEIS. More important, LASG did not identify the specific issues in this mass of material to which it wanted NNSA to respond. Commentors are required to present their comments in a way that reasonably permits a reviewing agency to examine their contentions, and this comment by LASG does not do so.

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2. Please incorporate by reference my scoping comments on this DSEIS of November 20, 2010, including my August 14, 2002 comments on the scope of the 2003 CMRR EIS and all supporting references.[15]

239-7

3. Please incorporate by reference the LASG memorandum of May 23, 2011, with all supporting evidence provided, entitled "The [CMRR-NF at LANL] should not be built. Even if CMRR-NF were to be built eventually, it should be delayed now. Longer delay would bring greater net benefit – in dollars, program continuity, decreased management risk across the NNSA complex, and otherwise."[16]

239-8

4. As stated in the pleadings, evidence, and scoping comments above and particularly at sections E and F of my third affidavit (January 14, 2011)[17], the SEIS process is irredeemably flawed and could never serve as a valid SEIS under NEPA and its implementing regulations (at 40 CFR 1500 et. seq. and 10 CFR 1021 et. seq.), under guidance prepared by the Council on Environmental Quality (CEQ) and DOE, or under any common-sense, logical approach to making decisions in which analysis of choices and their costs, benefits, and impacts actually precedes the decision involved. In the case of the SEIS process, the supposed analysis comes after the decision to construct CMRR-NF. This is illogical as well as illegal and renders the entire exercise one of futility and waste from the management and appropriations perspective, and one of deception as regards NNSA's posture toward interested citizens, tribes, state and local governments, and other federal agencies.

As stated in sections E and F of my January 14, 2011 affidavit, after the SEIS scoping process had concluded but before the appearance of the DSEIS:

> NNSA has been increasing its commitment to CMRR-NF since making the decision in 2004 to construct and operate it. Nearly all of the activities currently underway specifically advance and entrench defendants' preferred alternative and no other. Thus, they are prejudicial action. These prejudicial actions include detailed design and the design, purchase, and installation at RLUOB of specialized equipment to support CMRR-NF. No objective EIS or SEIS could be written while project momentum continues and specific contractual commitments to it continue to be made, executed, and extended.
>
> The purpose of NEPA analysis is to foster better federal decisions, not to analyze the impacts of decisions already made (40 CFR 1500.1). NEPA analysis is supposed to be done very early in the design process (40 CFR 1501.2), prior to formal alternative selection at CD-1, *i.e.*, when alternatives to the project are still being weighed.[18] DOE guidance states that such interim commitments are normally not appropriate.[19] NNSA claims its SEIS will help the agency choose

http://www.lasg.org/CMRR/Litigation/Mello_aff3_ref/Mello_Aff3_All_References.pdf.

[15] Available at http://www.lasg.org/CMRR/CMRR-NF_SEIS_scoping_comments_Nov2010.html.

[16] Available at http://www.lasg.org/CMRR/Mello_Reasons_to_Delay_CMRR-NF_22May2011.pdf.

[17] Available at http://www.lasg.org/CMRR/Litigation/Mello_aff3_14Jan2011.pdf.

[18] See DOE orders discussed at Mello Aff. #1, ¶66-69 and in this affidavit, ¶¶55, 71. See http://www.lasg.org/CMRR/Litigation/CMRR-NF_litigation.html.

[19] DOE, "Guidance Regarding Actions That May Proceed During the National Environmental Policy Act (NEPA) Process: Interim Actions," June 17, 2003.

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239-6 LASG submitted comments to NNSA during the scoping process, prior to preparation of the *Draft CMRR-NF SEIS*. NNSA considered and collectively responded to all relevant scoping comments in the *Draft CMRR-NF SEIS*.

239-7 LASG has also requested that NNSA incorporate by reference a memorandum, with all supporting evidence, which was not submitted to NNSA as a comment document on this SEIS. LASG did not identify the specific issues to which it wanted NNSA to respond. As stated in response to Comment 239-5, commentors are required to present their comments in a way that reasonably permits a reviewing agency to examine their contentions, and this comment by LASG does not do so.

239-8 See the response to Comment 239-4.

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between design details, but the issue is a choice between primary alternatives. The proposed alternatives in the SEIS NOI do not involve choices between design details.

The SEIS is being written because *none* of the original alternatives are reasonable any more. The 2003 EIS only considered constructing a CMRR in neighboring technical areas. Now the scale and scope of the project have markedly changed, dramatically changing the environmental impact analysis. Relevant new environmental information has come to light. New circumstances and scientific knowledge, erosive to the original purpose and need, have appeared. The project itself has exploded in cost and lengthened in schedule as the true nature of the proposed site has become internalized. Without a comprehensive treatment, all reasonable alternatives and their impacts cannot be evaluated. An EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives" (40 CFR Sec. 1502.14). "The information [in an EIS] must be of high quality." (40 CFR 1500.1). There is nothing left of the original EIS to "supplement," and the attempt to do cannot meet NEPA standards. The very word "supplemental" signals an unbroken commitment to the project. To write a "supplemental" analysis of a project's alternatives, when *one* alternative is the sole subject of such commitment, relegates the SEIS to *post-hoc* paperwork, contrary to NEPA's intention and requirements.

The purpose and need of the original project require reexamination today because of new scientific knowledge (existing pits will far outlast the factory to produce them), new technical data from the stockpile management program (stockpile can be kept safe, secure, and reliable without pit production indefinitely), new stockpile realities (post-2003 stockpile current and planned reductions), and new policies (NPR prejudiced against pit production; rejection of RRW). There is no significant pit production authorized or planned. NNSA is explicitly and fully committed to one alternative as they themselves and numerous senior officials have said. We read it on the front pages of our newspapers,[20] extensively in the trade press, on the White House web site,[21] and in the updated "Section 1251 Report."[22] The NOI and other materials provided so far contain too little factual material to provide any basis for informed comment. The scope of analysis presented in the October 1, 2010 Notice of Intent (NOI) was far too narrow and cursory. The current purpose and need were not examined. A very narrow suite of alternatives was offered, without any technical background to even indicate their possible feasibility. Two of the three alternatives are clearly infeasible and unsafe (build the rejected 2003 CMRR-NF; keep using CMR without upgrades).

239-8 cont'd

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[20] E.g. John Fleck, "Nuclear Spending Plan Up," *Albuquerque Journal*, 11/ 19/10, http://www.abqjournal.com/news/state/19232507888newsstate11-19-10.htm.

[21] White House, "Fact Sheet: An Enduring Commitment to the U.S. Nuclear Deterrent," 11/17/10, http://www.whitehouse.gov/the-press-office/2010/11/17/fact-sheet-enduring-commitment-us-nuclear-deterrent

[22] White House, "November 2010 Update to the National Defense Authorization Act of FY2010 Section 1251 Report: New START Treaty Framework and Nuclear Force Structure Plans" November 17, 2010, p. 6.

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No secondary alternatives were even mentioned. "Business case" or "capacity" analyses are needed to support a full suite of alternatives.

NNSA is conducting its NEPA process separately from other design, feasibility and impact analyses it is doing.

The notice methods used by NNSA for the SEIS were inadequate. Plaintiff, for example, did not receive any notice from NNSA or DOE, meaning that DOE did not use its mailing lists of regional organizations and individuals long involved in DOE affairs.[23] [Sic – see the preceding footnote.] Although CMRR-NF is clearly an issue of national importance, and DOE maintains national lists of parties categorized by interest, no evidence has been provided that any such list was used. The cognizant staff members at the New Mexico Environment Department (NMED) who had commented on the 2003 EIS told us they never saw any formal notice of this SEIS.

No hearings in other relevant NNSA locations, even though alternatives may involve facilities at other sites including the Savannah River Site (SRS), Lawrence Livermore National Laboratory (LLNL), and the Idaho National Laboratory (INL). LANL was chosen as a pit production site based on estimate of total costs a factor of ten lower than today's.[24] Given the huge cost increases, other sites which already have a plutonium infrastructure have clearly become reasonable alternatives, implying a need for proper notice and comment opportunities.

There were no actual scoping hearings. Providing computer terminals to type comments do not constitute a "hearing." Neither is an impromptu forum, provided without notice, where only informal notes are taken, a hearing.

An objective NEPA analysis of CMRR-NF and its alternatives is impossible without certain prior actions by defendants:

NNSA and DOE have publicly expressed their commitment to the single CMRR-NF alternative currently being pursued based on the 2004 ROD and their own critical decision process. A NEPA-compliant EIS or SEIS for CMRR-NF requires that they formally rescind these.

Defendants must rescind Critical Decision 1, "Selection of Alternatives."

Defendants must halt further investments in the CMRR-NF alternative currently being pursued, which only further entrench this alternative, reduce its schedule disadvantage to simpler alternatives, and prejudice any future decision. NEPA recognizes no post-decisional SEIS.

239-8 cont'd

[23] This issue was also pointedly raised in some detail by the Pajarito Group of the Sierra Club. Subsequent to this testimony we found the relevant notice letter.

[24] Richard Geddes, CMRR SEIS scoping comments, October 27, 2010.

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Defendants must undertake a searching review of the project's purpose and need. A great deal has changed, from stockpile size (much smaller) to known minimum pit life (much longer), to confidence in stockpile maintenance without pit replacement (now complete). In 1997, DOE said CMRR was unreasonable. In 2001, CMRR-NF plans did not include a Hazard Category II structure. In 2003, CMRR-NF plans had some 120,000 sq. ft. of nuclear laboratory space. A few years later, CMRR-NF plans had about 38,500 sq. ft. of nuclear laboratory space. Clearly DOE and NNSA have held many different concepts of what is essential in the last 14 years.

As preparation for an EIS, defendants must conduct business case analyses of the cost and feasibility of all reasonable alternatives, considering the infrastructure of the entire weapons complex as appropriate. No objective EIS can be written without this.

A full national scoping process that takes the newly clarified purpose and need and new business case and feasibility analyses into account is then required.

239-8 cont'd

5. Additional fatal defects in the SEIS process became apparent with the publication of the DSEIS. Some examples:

   a. The decision to build the preferred alternative (the 2010/2011 version of CMRR-NF, of whatever design variation) is not actually being reexamined.

   Because NNSA decided in the 2004 ROD [Record of Decision] to build CMRR – as a necessary step in maintaining critical analytical chemistry [AC] and materials characterization [MC] capabilities at LANL – the SEIS is not intended to revisit that decision.[25]

   A SEIS is an EIS and must examine all reasonable alternatives to the proposed action, including primary alternatives, i.e. alternatives which do not build the project.

   Both the HAC and NNSA Deputy Administrator Don Cook apparently believe alternatives to the CMRR-NF project may exist, as noted above.

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   b. The DSEIS lacks a No Action Alternative. First, a No Action Alternative means taking no action, including not building the CMRR-NF. No such alternative is envisioned. Further, NNSA admits it's bogus no action alternative "would not be constructed," and so is not an alternative of *any* kind.

   > **No Action Alternative (2004 CMRR-NF):**…Based on new information learned since 2004, the 2004 CMRR CMRR-NF would not meet the standards for a Performance Category 3 (PC-3) [footnote omitted] structure as required to safely conduct the full suite of NNSA AC and MC work. Therefore, the 2004 CMRR-NF would not be constructed.[26]

   And:

239-10

[25] DSEIS Summary at v. See also at 14 ("…NNSA is not planning to revisit either the need for the CMRR-NF or locating the facility at another site…NNSA intends to proceed with the CMRR-NF planning process.")

[26] Ibid at 8.

8

239-9 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. Following issuance of the 2003 *CMRR EIS*, NNSA announced its decision to construct the two-building CMRR in TA-55. NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation Supplemental Programmatic Environmental Impact Statement* (DOE 2008c) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. As stated by the commentor, NNSA is not planning to revisit that decision in the SEIS. The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare a supplement when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that an SEIS to the CMRR EIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information.

239-10 Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and not proceed with CMRR-NF, such an alternative does not meet NNSA's stated purpose and need (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). Thus, an alternative of ceasing CMR operations is not addressed in the CMRR-NF SEIS. The No Action Alternative in the *CMRR-NF SEIS* is based on the decision made following preparation of the original *CMRR EIS* in 2003.

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The remaining alternative, to construct the 2004 CMRR-NF as it was described and analyzed in the 2003 *CMRR EIS* [sic: it was not analyzed there] and its associated ROD, the 2008 *LANL SWEIS*, the *Complex Transformation SPEIS* [sic: it was not analyzed there] and its associated ROD, and in this CMRR-NF SEIS as the No Action Alternative, does not meet NNSA's purpose and need and thus, would not be implemented.[27]

239-10 cont'd

c. The DSEIS does not seriously consider any primary project alternative. This represents a step back from even the short suite of alternatives proposed during the scoping process, which included at least one colorably reasonable alternative (along with the "pre-rejected" ones offered at the time and formally rejected by NNSA in the DSEIS).

i. The CMR Upgrade alternative originally proposed in SEIS scoping – the sole potentially realistic alternative to CMRR-NF that was offered there – was abandoned in the DSEIS.

> …**Extensive Upgrades to the Existing CMR Building:** … this action was not analyzed further as a reasonable alternative to meet NNSA's purpose and need for action in this CMRR-NF SEIS.[28]

ii. The DSEIS considers however a patently unsafe alternative which would rely upon use of the existing CMR Building *without* major upgrades, and then (properly) rejects this same alternative.

> This CMRR-NF SEIS also considers an alternative that would continue to rely upon the restricted use of the CMR Building without constructing the CMRR-NF even though…this would not meet NNSA's purpose and need for taking action.[29]

This is certainly reasonable, since rejection of this alternative is the stated core justification for the CMRR-NF project.

iii. The DSEIS also rejects alternatives of building CMRR-NF at alternative sites at LANL, or at other locations.[30] It also rejects distributing the functions proposed for CMRR-NF to other LANL nuclear facilities.[31]

The rejection of any and all alternatives to CMRR-NF for detailed examination in the DSEIS is complete.

239-11

d. The rejection of all scoping comments that proposed alternatives to CMRR-NF bespeaks a defective SEIS *process*, as well as content. This is also another reason to suppose bad faith on the part of NNSA and its NEPA contractors in preparation of the DSEIS.

239-12

[27] Ibid at 9.
[28] Ibid at 20.
[29] Ibid at 14, 15.
[30] Ibid at 19.
[31] Ibid at 20.

9

239-11 Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original 2003 *CMRR EIS* and the current *CMRR-NF SEIS* (see Volume 1, Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building (specifically, there is a fault beneath TA-3/CMR Building). The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

239-12 As noted in the discussion of the scoping comments in Chapter 1, Section 1.7, Public Participation, of the *Draft CMRR-NF SEIS*, there were requests for changes in the type of document to be prepared, as well as suggestions for changes in the alternatives and for additional alternatives to be addressed in the SEIS. In addition, there were requests for the type of impact analyses to be performed for the SEIS, including for example, climate change and global warming. NNSA considered all scoping comments and summarized the comments and their responses in the Draft SEIS; however, not all suggestions were incorporated into changes to the SEIS.

Commentor No. 239 (cont'd): Greg Mello
Los Alamos Study Group

e. Having eliminated from considerations all project alternatives in its SEIS, NNSA incorrectly construes NEPA as an aspect of the *engineering design process* for a predetermined agency decision that would construct a project of certain precise capabilities, size, and requirements in a precise location at a precise time. **239-13**

f. The DSEIS identifies additional project parameters and environmental impacts, not previously disclosed, that so grossly exceed those identified in the 2003 CMRR EIS that a *de novo* EIS involving new alternatives is warranted. For example:

i. Electricity usage during construction and operation would be 492 and 8.34 times, respectively, that predicted in the 2003 EIS.

ii. Water usage during construction and operation would be 6.7 and 1.5 times, respectively, that predicted in the 2003 EIS.

In fact,

> When compared to the available site capacity, operation of the Modified CMRR-NF and RLUOB would require 12 percent of the available water, 27 percent of the available electricity…the peak electrical demand estimate of 26 megawatts [MW], when combined with the site-wide peak demand, would use all of the available capacity of the site.[32]

g. The DSEIS evinces an additional connected major federal action requiring its own NEPA analysis, namely how to supply all this proposed additional electricity.

> Regardless of the decisions to be made regarding the CMRR-NF [i.e. which of two functionally- and spatially-identical versions CMRR-NF to build], adding a third transmission line and/or re-conductoring the existing two transmission lines are being studied by LANL to increase transmission line capacities up to 240 megawatts to provide additional capacity across the site.[33]

This is far more electrical capacity than LANL (or the Los Alamos County electrical pool as a whole, including residential and commercial usage in Los Alamos), has ever needed, used, or previously analyzed under NEPA. Peak LANL demand was 70.9 MW in 2001 and 2003. The Expanded Operations Alternative in the LANL SWEIS projected peak loads of 124 MW for LANL and 144 MW for the Los Alamos power pool overall.[34] **239-14**

6. As a result of these fundamental defects of process and content, including the complete absence of detailed engineering feasibility studies which could support or reject reasonable alternatives as noted above and the transgressions of logic and law in which the DSEIS is offered, there is likely to be little value in offering detailed comments on this document. The DSEIS comes after NNSA's decision to construct CMRR-NF and until that order is reversed it cannot be viewed as a good-faith effort on NNSA's part. **239-15**

7. Nevertheless we aim to do so. For the last two days, however, which were to be devoted to this task, we have been substantially diverted by dozens of calls from citizen constituents and **239-16**

[32] Ibid at 25.

[33] Ibid.

[34] DOE, *Final Site-wide EIS for Continued Operation of Los Alamos National Laboratory* (DOE/EIS-0380), pp. 2-67 and 3-98, at http://www.doeal.gov/laso/NEPASWEIS.aspx.

10

239-13 As noted in the response to Comment 239-2, the *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on requirements related to additional seismic information. Three alternatives, including the No Action Alternative and an alternative with two options, are analyzed, as described in Chapter 2 of the SEIS. While the No Action Alternative reflects NNSA's previous decision made following preparation of the original *CMRR EIS* in 2003, NNSA has stated that this alternative would not be pursued.

239-14 NNSA agrees that both water and electrical usage would increase as addressed in the SEIS. Water usage estimates related to the proposed CMRR-NF are included in Chapter 4, Sections 4.2.3 and 4.3.3. As discussed in these sections, the proposed CMRR-NF is expected to use up to about 5 million gallons (19 million liters) of water per year to support construction of the CMRR-NF. If built, the CMRR-NF, combined with RLUOB, would use up to 16 million gallons (61 million liters) of water per year to support facility operations. When the CMRR-NF requirements are combined with other LANL site-wide projected water requirements, the projected requirements would remain within the LANL's water rights. Please refer to Section 2.10, Water Resources and Usage, of this CRD for more information. The CMRR project peak electrical demand estimate of 26 megawatts, when combined with the projected site wide peak demand, is estimated to use all of the available (surplus) capacity at the site. However, actual peak demand for LANL has been below projected levels in the past and well within site capacities.

239-15 Comment noted.

239-16 All comments received by NNSA, including late comments, were considered in developing the *Final CMRR-NF SEIS*.

Commentor No. 239 (cont'd): Greg Mello
Los Alamos Study Group

interviews with journalists seeking perspectives on the Las Conchas Fire. This fire has shut down LANL and the NNSA Los Alamos Site Office (LASO) for the past two days and has occasioned the evacuation of the Los Alamos townsite as a whole. We anticipate filing further comments later this week.

239-16 cont'd

These conclude our comments today. More will follow shortly, hopefully more or less concurrent with resumption of work on the SEIS as the fire abates.

I trust the present huge forest fire on the very borders of LANL will remind us all that significant natural hazards are present at this site, which was selected less for its suitability for manufacturing than for its remoteness and (former) beauty.

Sincerely,

Greg Mello, for the Los Alamos Study Group

Response side of this page intentionally left blank.

Commentor No. 240: Ralph Hutchison, Coordinator
Oak Ridge Environmental Peace Alliance

From: Ralph Hutchison [orep@earthlink.net]
Sent: Monday, June 27, 2011 12:10 PM
To: NEPALASO@doeal.gov
Subject: OREPA comments on CMRR-NF S-EIS

Comments of the Oak Ridge Environmental Peace Alliance
on the National Nuclear Security Administration's
Supplement Environmental Impact Statement
for the Chemistry and Metallurgy Research Replacement – Nuclear Facility
at Los Alamos National Laboratory

27 June 2011

Since it was first proposed more than a decade ago, the momentum has built slowly and inexorably toward the construction of the Chemistry and Metallurgy Research Replacement-Nuclear Facility. In the intervening years, reality has rarely been allowed to intrude on the process, the CMRR has been built, and plans for the Nuclear Facility have entered the final stages before construction. Now, the insistence of the Defense Nuclear Facilities Safety Board that the National Nuclear Security Administration address concerns about the seismic stability of the CMRR-NF has created a speed-bump; the NNSA is compelled to prepare a Supplement to the original Environmental Impact Statement.

240-1

The CMRR-NF SEIS is an opportunity to examine not only the adequacy of the seismic design of the facility, but also to answer other questions that changing circumstances have posed since the 2003 CMRR-EIS. The original economic analysis supporting the CMRR is no longer valid as construction cost estimates have rocketed into the stratosphere and pressures on the US budget have forced draconian cuts in many programs; the "purpose and need" for the 80-warhead/year CMRR has been eclipsed by the START Treaty and the commitment of the president to pursue a world free of nuclear weapons; the disaster in Fukushima, Japan, compels a fundamental reassessment of the adequacy of current design assumptions; even the wildfires threatening Los Alamos National Lab at the moment (for the second time in little more than a decade) raise the most basic of questions—if the CMRR-NF is as crucial to national security as NNSA asserts, is it wise to build it in an area that faces evacuation and closure at the whim of nature?

240-2

The commitment of the United States to reduce its nuclear arsenal under the START Treaty, and the pursuit of further deep cuts, undermines the NNSA's assertion that the United States needs an 80-warhead/year production capacity for plutonium pits. An independent review by the JASON determines the current US stock of pits is reliable for at least 45 years, likely much longer. The only conceivable rationale for an 80-warhead/year capacity is a determination to

240-1 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 240 (cont'd): Ralph Hutchison, Coordinator Oak Ridge Environmental Peace Alliance

maintain full-scale capacity to produce new nuclear weapons. This would not only violate the spirit of the Nuclear Nonproliferation Treaty and send a perilously provocative message to the rest of the world, it would make a liar of our president and contradict the nuclear policy of the country. (It is not merely coincidence that the NNSA's proposed Uranium Processing Facility also has an 80-warhead/year throughput capacity.) **240-2 cont'd**

In the current economic climate, it defies reason to imagine the United States should invest more than $10 billion on an oversized CMRR-NF and UPF without a compelling case for the mission of the two facilities. A more reasonable alternative is to prepare a detailed assessment for upgrading current facilities in place—both at Los Alamos and Oak Ridge, the NNSA has the capacity to meet all mission requirements for stockpile surveillance and maintenance during the build-down to zero; existing facilities can be upgraded to meet environmental, safety and health requirements at a fraction of the cost of new facilities. **240-3**

The Supplemental EIS is not the appropriate vehicle for revisiting such fundamental questions—it requires a new EIS, one that takes as its starting point the reality of 2011 instead of the reality of 1998. Outside of the communities that stand to receive a direct financial benefit from the construction of the CMRR-NF and the UPF, no reasonable person believes the US can afford everything in 2011 it could in 1998; public support for the nuclear stockpile has also declined significantly; old war-horses and defense hawks—Henry Kissinger, George Shultz, William Perry and Sam Nunn have declared the US must take concrete steps toward the abolition of nuclear weapons; the disaster in Fukushima, now recognized as worse even than Chernobyl, has demonstrated the stakes are greater than we like to think—not only are the lives of workers and the public at risk, but the earth and the oceans are at risk—land around Fukushima is poisoned, no longer able to provide food and water to sustain life. **240-4**

How have the planners of the CMRR-NF accommodated this changing reality? They have pushed on as though nothing has changed, ignoring public comments that question the need for a new nuclear weapons production facility, maintaining the "need" for a grossly oversized facility, and bloating the budget with a straight face even as the public insists we can no longer act like teenagers who don't have to buy the gas that fuels their travels.

It is simply not true that there is no price to pay for this overreach. The CMRR-NF, underdesigned (like Fukushima) to withstand natural phenomena, may well fail. Its mere construction will undermine US efforts to constrain nuclear proliferation— **240-1 cont'd**

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

The CMR building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, including stockpile stewardship, maintenance, and production, but they are not tied to any specific pit production level. As indicated in Chapter 2, Section 2.4 of the CMRR-NF SEIS, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. But there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. But, the type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 240 (cont'd): Ralph Hutchison, Coordinator Oak Ridge Environmental Peace Alliance

why should Iran listen to a word we say when we are brazenly ignoring our commitment under the 41 year-old nonproliferation treaty (reinforced by the 1996 opinion of the International Court of Justice that "there exists an obligation" on the part of nuclear weapons states to meet their 1970 NPT obligation)? Construction of the CMRR-NF will spend money that could be spent on environmental restoration of weapons communities, or new schools, housing, education, job training or a hundred other programs that are productive rather than destructive. ***240-2 cont'd*** ***240-5***

All this is to say the S-EIS fails to meet the NNSA's obligation to fully examine the impacts of its decision to proceed with a new bomb plant on "the whole of the human environment," and to consider all reasonable alternatives in developing its path forward. If the mission requirements of the Stockpile Stewardship program can be met at significantly less cost by upgrades to existing facilities, this alternative is not only reasonable, but should be compelling. ***240-4 cont'd***

Submitted by

Ralph Hutchison, coordinator
Oak Ridge Environmental Peace Alliance

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

240–2 A decision on the level of pit production is not within the scope of the CMRR-NF SEIS, as that decision (20 pits per year) was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

240-3 NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation Supplemental Programmatic Environmental Impact Statement* (DOE 2008b) in 2008. NNSA announced its decisions, which were based on a number of considerations including cost, in two Records of Decision published in the *Federal Register* on December 19, 2008 (73 FR 77644 and 77656). The first ROD addresses operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and includes the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building. Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely.

Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS*. The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons.

Commentor No. 240 (cont'd): Ralph Hutchison, Coordinator Oak Ridge Environmental Peace Alliance

Chapter 2, Section 2.7 has been expanded to include additional information on why it is not technically feasible to upgrade the existing CMR Building.

240-4 NNSA has determined that the *CMRR-NF SEIS* meets NEPA's obligations to fully examine the impacts of the proposed action. Refer to Section 2.2, NEPA Process, of this CRD for more information.

240-5 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense, education, and housing) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 241: Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

Public Comments of Robert H. Gilkeson, Registered Geologist, and Concerned Citizens for Nuclear Safety (CCNS) about the DOE 2011 draft Supplemental Environmental Impact Statement for the proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) at the Los Alamos National Laboratory (LANL) Technical Area-55 (TA-55)

To: John Tegtmeier, Document Manager

From: Robert H. Gilkeson, Registered Geologist, rhgilkeson@aol.com
Joni Arends, Concerned Citizens for Nuclear Safety (CCNS)
jarends@nuclearactive.org ccns@nuclearactive.org

Date: June 28, 2011

Re: Insufficient, Incorrect and Misrepresented Seismic Information for Design Basis Earthquakes for Proposed CMRR-NF – Requirement for DOE to Retract DOE 2011 draft SEIS for CMRR-NF

ISSUE 1. There is a requirement for the Department of Energy (DOE) to retract the DOE 2011 draft Supplemental Environmental Impact Statement (DOE 2011 draft SEIS) for the proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) at the Los Alamos National Laboratory (LANL) Technical Area-55 (TA-55) because of the inadequate and incomplete analysis provided based on the following facts: *241-1*

1.A. The DOE 2011 draft SEIS greatly underestimates the seismic hazard at the proposed CMRR-NF. This is because the LANL 2007 Probabilistic Seismic Hazard Analysis (PSHA) Report incorrectly calculated simultaneous earthquakes to produce a greater seismic hazard than multiple synchronous earthquakes. The greater ground motions from synchronous earthquakes produce a much greater seismic hazard than from simultaneous earthquakes. This issue is discussed beginning on page 22. *241-2*

1.B. The DOE 2011 draft SEIS misrepresents the LANL 2007 PSHA Report as "a comprehensive update to the LANL seismic hazards analysis." In reality, the LANL 2007 PSHA is inadequate and incomplete to provide the "design basis earthquakes" for the proposed CMRR-NF or for the assessment of the seismic hazard at the location of any existing or proposed critical facilities on the 40-square mile LANL Site. This issue is discussed throughout this report and specifically on page 26. *241-3*

- The DOE 2011 draft SEIS did not consider the increasing seismic hazard at the CMRR-NF that was described in the LANL 2007 PSHA Report and in Lewis et al., 2009 because the youthful Pajarito Fault System (PFS) is growing with an increase in danger for powerful ground-rupturing earthquakes at the location of the proposed CMRR- NF and at other critical locations at the LANL Site. This issue is discussed throughout this report and specifically in the section beginning on page 11 titled "Background for the neoseismic setting of the growing PFS." *241-4*

- The LANL 2007 PSHA did not have the necessary data to calculate the growing power of the neoseismic PFS. A comprehensive field investigation is necessary to acquire the data to evaluate the increasing seismic hazard (see Section 1 B beginning on page 26).

241-1 NNSA notes the commentor's concerns and technical comments regarding seismic issues related to the *Draft CMRR-NF SEIS*. In addition to all the following responses, refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information and to sections of the *Final CMRR-NF SEIS* where revisions were made to text in response to comments as noted in the specific response that follows each comment below.

As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazards analysis of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 preliminary seismic hazards analysis was not publicly available at the time the Draft CMRR-NF SEIS was prepared; however, it has subsequently been made available to the public and has been incorporated into the Final CMRR-NF SEIS.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*).

241-2 The PSHA (LANL 2007) included both simultaneous and synchronous earthquake rupture models in calculating design-basis ground motions for TA-55. Simultaneous ruptures were slightly favored in the model with a weight of 0.6 because this is the standard model used in PSHA practice, and displacement data for the Pajarito fault system suggest this type of rupture occurred in the past. However, synchronous ruptures were also included in the analysis with a weight of 0.4.

The PSHA did not calculate higher hazard for the simultaneous rupture, but the PSHA did estimate slightly higher maximum magnitudes for the simultaneous rupture model. Preferred maximum magnitudes for both simultaneous and synchronous ruptures were estimated using the same general approach, which has a sound technical basis, as discussed in the response to comment 241-15 (below).

Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

- The DOE 2011 draft SEIS and the LANL 2007 PSHA do not provide the acquisition of site-specific data and subsequent analysis to ensure that ground motions for design basis earthquakes at the location of the proposed CMRR-NF are based on accurate scientific knowledge (see Issues 1.A and 1.B beginning on page 22).. **241-5**

- The DOE 2011 draft SEIS and the LANL 2007 PSHA do not provide a design for the proposed CMRR-NF that can be certified as safe for workers and the public, nor for the storage of six metric tons (13,228 pounds) of plutonium. **241-6**

- The DOE 2011 draft SEIS and the LANL 2007 PSHA incorrectly calculate simultaneous earthquakes to produce a greater seismic hazard than multiple surface-rupturing synchronous earthquakes. This important mistake is Issue 1.A on page 22. **241-2 cont'd**

- The DOE 2011 draft SEIS underestimate the seismic hazard at the proposed CMRR-NF because a low and incorrect value of 0.3g was used for the vertical peak ground acceleration (PGA). The value presented in the LANL 2007 PSHA for the vertical PGA was 100% greater at 0.6g. (see pages 32-33). **241-7**

- The DOE 2011 draft SEIS and the LANL 2007 PSHA do not provide the required knowledge of the seven key parameters (location, geometry, sense of slip, maximum magnitude, recurrence, and kappa) described in the LANL 2007 PSHA (see page 26). **241-8**

- The DOE 2011 draft SEIS and the LANL 2007 PSHA do not provide the "robust kinematic model" as described in the LANL report LA-UR-06-2158, entitled *"Fault interaction and along-strike variation in throw in the Pajarito fault system, Rio Grande rift, New Mexico"* in the June, 2009 issue of *Geosphere* by Lewis et al., 2009 (see page 28). **241-9**

1.C. The DOE 2011 draft SEIS misrepresents the lack of detailed field investigations for accurate knowledge of the distance from the proposed CMRR-NF to the Guaje Mountain Fault (GMF). The essential need for detailed field mapping for the southern boundary of the GMF is described in the LANL report by Lewis et al., 2009 (see page 33).

1.D. The LANL scientists disagree on the locations of active faults close to the proposed CMRR-NF. The DOE 2011 draft SEIS does not provide the evidence from field mapping of intense fractures in the Bandelier Tuff along Pajarito Road and in Mortandad Canyon in the LANL report LA-UR-04-8337 by Wohletz, 2004 that indicate active faults are located 800 ft west, 1600 ft north and 2500 ft east of the CMRR-NF (see page 34)..

ISSUE 2. There is a requirement to retract the DOE 2011 draft SEIS because of the following facts:

2.A. There was knowledge from 1992 of the weak layer of poorly welded volcanic tuff below the proposed CMRR-NF (LANL 1995 PSHA Report) and knowledge from outcrop mapping in 1990 (Vaniman and Wohletz,1990) that an active fault was located within 800 feet west of the location of the proposed CMRR-NF at LANL TA-55. The knowledge of the high seismic hazard because of the weak geologic layer and the close location of an active fault was not considered in the original design and cost estimates for the proposed CMRR-NF in the DOE 2003 Environmental Impact Statement. **241-10**

2.B. The DOE 2011 draft SEIS does not provide the final design and estimated cost of the proposed CMRR-NF at LANL TA-55. (see page 38). **241-11**

*Gilkeson and CCNS Comments about DOE 2011 draft SEIS for CMRR-NF * June 28, 2011 * Page 2*

It is somewhat counterintuitive that the slightly bigger simultaneous earthquake can result in a lower ground motion hazard, but the two synchronous earthquakes result in higher ground motions for nearby sites, particularly when the site is located between the rupturing fault segments, because energy is coming from two sources.

For both synchronous and simultaneous ruptures, maximum magnitudes were estimated in the PSHA based on surface rupture lengths and available displacement data, as appropriate to the particular rupture scenario. The main difference between the simultaneous and synchronous ruptures is that all of the moment (energy) is released in one event in the simultaneous model, versus the moment being split into two slightly smaller synchronous subevents on different segments of the Pajarito fault system, in the synchronous model. Thus, the slightly smaller magnitudes for the synchronous ruptures are a direct result of splitting the fault rupture into two portions for this model. In addition, the 10 percent difference in the total moment release between the two models primarily results from the different geometries used and the fact that displacements do not scale the same as surface rupture lengths in the empirical relations. Finally, as discussed in the response to comment 241-15 (below), maximum magnitudes for both synchronous and simultaneous ruptures were calculated correctly using techniques that meet SSHAC and DOE guidelines. The calculated results were checked and thoroughly peer reviewed.

As a result of comments received on the *Draft CMRR-NF SEIS*, Chapter 3, Section 3.5, Geology and Soils, of the *CMRR-NF SEIS* was revised to improve the discussion of faulting and seismic hazards at LANL. See the responses to comments 241-4 and 241-15 for more information on maximum magnitude earthquakes and seismic analogs.

241-3 Neither the LANL PSHA Peer Review Panel nor DNFSB found the 2007 and 2009 LANL PSHAs to be "inadequate and incomplete," as indicated in the comment. The purpose of the 2007 LANL PSHA update (LANL 2007), which was followed by another update in 2009 (LANL 2009), was to assess the earthquake ground-shaking hazard at LANL and based on that hazard, develop site-specific design-basis earthquake ground motions for several LANL sites, including the CMRR-NF. Both PSHAs were performed following the guidelines established by SSHAC (1997) for PSHAs, particularly with regard to the incorporation of uncertainty. DOE, NRC, and the Electric Power Research Institute (EPRI) sponsored the development of the SSHAC guidelines. The goal

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2.C. The two designs being considered for the proposed CMRR-NF at LANL TA-55 are based on ground motions from simultaneous earthquakes and not on the larger ground motions from multiple ground-rupturing synchronous earthquakes, which have occurred. (see page 22). **241-2 cont'd**

2.D. The two designs being considered for the proposed CMRR-NF at LANL TA-55 do not consider that the GMF may extend south to a location close to the proposed facility. (see pages 33-34). **241-10 cont'd**

2.E. The DOE 2011 draft SEIS contains much incorrect information that misrepresents and downplays the large and poorly understood seismic hazard at the LANL location for the proposed CMRR-NF and at the location of other critical facilities at the LANL Site. This fact is presented throughout this report. **241-1 cont'd**

2.F. The DOE 2011 draft SEIS and the LANL 2007 PSHA place too much reliance on expert judgment couched in the "Poisson Assumption" instead of the acquisition of site-specific data and subsequent analysis to ensure that ground motions for design basis earthquakes are based on accurate scientific knowledge. The 2009 LANL report by Lewis et al., describes the need for a comprehensive kinematic study of the PFS in the geologic setting of LANL TA-55 and also over the entire region of the PFS. The knowledge of the kinematics of the entire fault system is necessary to assess the seismic hazard at the location of the proposed CMRR-NF and for other critical facilities at LANL TA-55 and at other LANL locations. This fact is presented throughout this report. **241-12**

ISSUE 3. We have not received written answers to the questions we presented to the DNFSB in April 2009 about the many deficiencies in the LANL 2007 PSHA Report. We have discovered many new deficiencies in our preparation of this report. The sparse data and conclusions based on the Poisson Assumption in the deficient LANL 2007 PSHA Report were used as the basis for the highly flawed and unacceptable seismic design of the proposed CMRR-NF at LANL TA-55. Our review of LANL and DOE reports show that the DOE 2011 draft SEIS and the LANL 2007 PSHA Report do not meet the DNFSB requirements described below on page 63 in the DNFSB TWENTY-FIRST ANNUAL REPORT TO CONGRESS: **241-3 cont'd**

> **4.10 Seismic Hazard Analysis**
> The Board pursued its ongoing review of DOE site characterization and seismic hazard studies across the DOE complex. The Board continues to stress to DOE the importance of adequate review, including independent peer review, of both the acquisition of site-specific data and subsequent analysis to ensure that ground motions for design basis earthquakes are based on accurate scientific knowledge.

There is a need for independent peer review of the data acquisition and subsequent analysis processes at LANL; especially because of the disagreement among LANL scientists on the locations of active faults at the proposed CMRR-NF.

Introduction. The DOE 2011 draft SEIS discusses the interaction with the Defense Nuclear Facilities Safety Board (DNFSB) for review of the two Options within the Modified Construction Alternative. They are the "Shallow" and "Deep" Options. The DNFSB is required by law to review the design and construction of defense nuclear facilities in order to ensure protection of workers and the general public. These facilities must be designed and constructed in a manner that supports safe and efficient

of any PSHA is to develop inputs that represent the composite distribution of the informed technical community. SSHAC recognizes that PSHA inputs can be subject to considerable uncertainties due to incomplete data and scientific understanding, as well as from process variability. In particular, when developing the inputs for PSHA, it is recognized that there is always incomplete knowledge because that is the nature of trying to characterize a complex natural process. However, by performing PSHAs in a manner consistent with the SSHAC guidelines, particularly with regards to the incorporation of the range of different interpretations and scientific uncertainties, the results should be robust and stable. Participatory peer review is also an essential element of a successful PSHA and in the case of the LANL PSHAs, an internationally recognized expert panel was engaged. In addition, DNFSB was involved in the 2007 and 2009 studies and provided commentary on the process.

241-4 In the 1995 PSHA, the peak horizontal ground acceleration (PGA) associated with an annual frequency of exceedance of 4×10^{-4} was reported to be about 0.33 *g* for TA-55. In the 2007 PSHA, the PGA at the same annual frequency of exceedance was reported to be 0.52 *g*. An increase in the slip rates on the Pajarito fault system, in addition to other factors, likely contributed to the increased seismic hazard. The 2007 and 2009 PSHAs represent the best knowledge to date on the seismic hazard at LANL, with the uncertainties appropriately incorporated. The results of this evaluation have been included in the design of the CMRR-NF and, as such, incorporated in the cost estimate.

The seismic hazard at LANL, defined as the likelihood of exceeding some level of ground motion in any given year, is considered static over the design lifetimes of critical facilities, including the planned CMRR Facility. What does change, however, is the estimate of the actual seismic hazard.

The change in seismic hazard at LANL is due in large part to new evidence in the activity of the Pajarito fault system, new ground motion prediction equations, and the consideration of temporal clustering in the Pajarito fault system. Considering this new evidence, the estimate of the horizontal PGA associated with an annual frequency of exceedance changed from about 0.33 *g* in 1995 to about 0.52 *g* in 2007. However, as new evidence becomes available, NNSA's estimate of the seismic hazard may change slightly, although the hazard estimates are expected to remain fairly stable. For example, the best estimate of the horizontal PGA associated with an annual frequency of exceedance of 4×10^{-4} decreased from

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operations. These statutory requirements are described in the DNFSB Twenty-first Report to Congress as follows:

> **4. Nuclear Facilities Design and Infrastructure**
> The Board's strategic performance goal for this area is to ensure that new defense nuclear facilities and major modifications to existing facilities are designed and constructed in a manner providing adequate protection of the health and safety of the workers and the public. The Board is required by statute to review the design and construction of defense nuclear facilities, which must be designed and constructed in a manner that supports safe and efficient operations. The Board has made a concerted effort to ensure that its review of new design projects focuses on early recognition and resolution of safety issues, and that new DOE facilities are being constructed to acceptable industry codes and standards (p. 55).
>
> **4.6 Los Alamos National Laboratory Chemistry and Metallurgy Research Replacement Project.** The Board continued its review of the design of the Chemistry and Metallurgy Research Replacement Project. The Board continued to follow closely the seismic design of the project's nuclear facility. During the past year, the project has developed a detailed model to assess the complex structural behavior of this facility. The development of this model is a step forward that should ultimately lead to an adequate seismic design. The Board has worked with the project to ensure that seismic design inputs for this deeply embedded facility are properly defined [Emphasis Supplied]. The Board will review the seismic analysis calculations once they are complete (p.61).

241-3 cont'd

Discussion of Findings From Our Review. Our review of information presented in several reports by DOE and LANL has determined that DOE does not have the required knowledge of the seismic hazard at the location of the proposed CMRR-NF to meet the mission of the DNFSB *"to ensure that seismic design inputs for this deeply embedded facility are properly defined."* The information we present in this report shows that the DOE 2011 draft SEIS and the LANL 2007 PSHA Report have not acquired the site-specific data and subsequent analysis to ensure that ground motions for design basis earthquakes at the proposed CMRR-NF are based on accurate scientific knowledge.

The seismic hazard calculations that are being used for the design of the proposed CMRR-NF are not supported by accurate scientific knowledge on the seismic setting in the vicinity of the proposed nuclear facility. An important example is that Section 5 in the LANL 2007 PSHA Report incorrectly calculates that the seismic hazard is greater for simultaneous ruptures from a single earthquake than from multiple ruptures from synchronous earthquakes. However, Section 7 in the PSHA Report describes the reason the physical processes from synchronous surface-rupturing earthquakes produce a greater seismic hazard as follows on page 7-3:

> The hazard is higher for synchronous rupture because the ground motions will be larger from seismic slip involving two subevents versus more uniform slip in a single albeit larger simultaneous event.

In fact, Figure 7-53 in the LANL 2007 PSHA Report calculates that the Mean Peak Horizontal Acceleration Seismic Hazard at the proposed CMRR-NF is 75% higher for the synchronous ruptures of multiple earthquakes than for the simultaneous ruptures. The

241-2 cont'd

0.52 *g* in 2007 to 0.47 *g* in 2009 (LANL 2009). This change was in part due to the availability of a new and improved set of ground motion prediction equations.

241-5 The comment indicates that site-specific data on the geometry and sense of slip of the Pajarito fault system are inadequate because studies have not been conducted. Dozens of mapping studies of the Pajarito fault system have been conducted (for example, Gardner and House 1987; Wong et al. 1995; Carter and Gardner 1995; McCalpin 1997; Lavine et al. 2003), including state-of-the-art, high-precision mapping in the vicinity of LANL, as discussed in the responses to comments 241-10 and 241-17 (below). In addition, numerous paleoseismic trench investigations have been conducted at 17 sites over the past 20 years (for example, Gardner et al. 1990; Olig et al. 1996; Kelson et al. 1996; LANL 2007; McCalpin 1998, 1999, 2005). These studies clearly show that the Pajarito fault system is a series of normal slip faults that form the best studied fault system in the Rio Grande rift. Admittedly, some parts of the fault have not been as well studied as others; these tend to be those portions outside of LANL, especially where access issues are a problem (for example, the Santa Clara Canyon segment). Additional study of these areas would likely improve our understanding of the fault and could help reduce uncertainties in the inputs, but these studies are not a prerequisite to conducting a PSHA or determining design-basis ground motions at LANL. The uncertainties in regards to fault geometry, rupture behavior, and sense of slip on the Pajarito fault system were fully recognized and addressed in the range of inputs to the PSHA. A range of fault dips was used (±15°), a component of oblique slip was considered in calculating slip rates, and two rupture models and various rupture scenarios were included in the analysis to address remaining uncertainties in the geometry and sense of slip of the Pajarito fault system.

Finally, comments imply that there are critical data and analyses for the Pajarito fault system that were published in the Lewis et al. (2009) paper and were not included in the PSHA update (LANL 2007). Several of the coauthors of the Lewis et al. (2009) study, including the lead author, were also involved in developing the seismic source model of the Pajarito fault system for the 2007 PSHA update. All of the data and analyses for the Pajarito fault system published in the Lewis et al. (2009) study were included or considered in the PSHA update. The first draft of the Lewis et al. paper was written in 2007 and it took 2 years to get through the review and publication process.

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calculations in Figure 7-53 were for a return period of 2,500 years for multiple surface-rupturing earthquakes in the PFS. Figure 7-53 is on page 24 in this report.

Nevertheless, Section 5.1.2.4 in the LANL 2007 PSHA Report incorrectly estimated the maximum Magnitude **M** for earthquakes at the proposed CMRR NF to be approximately 10% smaller for synchronous earthquakes than for simultaneous earthquakes on page 5-18 as follows:

> We estimated maximum magnitudes for both subevents of the synchronous ruptures using the same approach and these are consistently slightly smaller than for the simultaneous ruptures (Table 5-11), but the sum of the moment for the two subevents is within 10% of the moment for the simultaneous rupture of the same rupture scenario.

- The incorrect low values for synchronous ruptures at the proposed CMRR-NF is a serious mistake that requires DOE to retract the DOE 2011 draft SEIS because the design basis earthquakes used for the design of the proposed CMRR-NF were not based on accurate knowledge of the seismic hazard.
- **An important fact is that the calculations of earthquake ground motions in the LANL 2007 PSHA Report and in the DOE 2011 draft SEIS are incorrect and can not ensure the proposed CMRR-NF will survive a design basis earthquake without significant structural damage with potential for release of the large inventory of six metric tons (13,228 pounds) of plutonium to be stored at the proposed nuclear facility.**

241-2 cont'd

The reports we reviewed show there is unacceptable poor knowledge of the locations of active faults close to the proposed CMRR-NF. We discovered that there is disagreement among the LANL scientists on the locations of the two key faults: 1). the Rendija Canyon Fault (RCF) and 2). the Guaje Mountain Fault (GMF). The ground based motions for the design of the proposed CMRR-NF were based on mapping of faults that show the RCF was located a lateral distance of 3000 feet west of the proposed CMRR-NF and an assumption that the termination of the GMF was 2 ½ miles north of the location of the proposed CMRR-NF.

However, a very important discovery in our review is that a LANL report (Lewis et al., 2009) shows that the LANL Seismic Hazards Geology Team have a concern that the southern boundary of the GMF may be close to the proposed CMRR-NF. The distant and probably incorrect location of the GMF used to assess the seismic hazard for the proposed CMRR-NF is displayed on Figure 5-4 in the LANL 2007 PSHA Report (Figure 1 below in this report) and on Figure 3-5 in the 2011 draft SEIS (Figure 2 below in this report). The pertinent excerpts from Lewis et al., 2009 follow:

> The southern extent and amount of displacement of the GMF are not well characterized (p. 257).
>
> **Conclusions. . .** The southern end of the GMF has not been mapped in detail, but its southern termination is likely to be similar to that of the Rendija Canyon fault (p. 268).

We discovered there is disagreement among the LANL scientists on the locations of active faults close to the proposed CMRR-NF. A 2004 LANL report by Kenneth H. Wohletz (LA-UR-04-8337) indicates that active faults are located 800 ft west, 1600 ft

241-10 cont'd

241-6 The draft SEIS and PSHA are not intended to be used as design-level documents. The PSHA represents the best knowledge to date on the seismic hazard at LANL, with the uncertainties appropriately incorporated. The results of the PSHA and site-specific geotechnical reports referenced in the geology discussions in Chapter 3, Section 3.5, and Chapter 4, Section 4.5 (Kleinfelder 2007a, 2007b, 2010a, 2010b), have been included in the preliminary design of the CMRR-NF, which, per DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, will be finalized subsequent to completion of the SEIS.

241-7 Based on an apparent typographical error in the 2007 PSHA Executive Summary, the vertical peak ground acceleration for the CMRR-NF was incorrectly cited as 0.3 *g* instead of 0.6 *g* in the SEIS. This error has been corrected. This typographical error in the Executive Summary of the PSHA is not reflective of information presented elsewhere in the PSHA and was not used in the design of the proposed CMRR-NF; 0.6 *g* was used in the design.

241-8 While the PSHA study acknowledges that additional data in these areas would provide a more complete understanding of the seismic hazard at LANL, NNSA believes there was sufficient information to complete the study. The uncertainties associated with these areas have been adequately captured and bounded by the results of the study.

241-9 A kinematic fault interaction model for the Pajarito fault system, envisioned by Lewis et al. (2009), can be useful to test whether hypothetical linked rupture scenarios are physically plausible, and to understand possible coseismic static stress changes (normal and shear) to nearby fault segments, produced by slip on principal segments within the Pajarito fault system. The inputs to the kinematic fault interaction model require a significant number of assumptions, including the state of stress of all fault segments prior to the earthquake, and a model of the stress release of the earthquake. It is possible that, by incorporating the 2007 LANL PSHA fault scenarios and related uncertainties, insights could be developed on these fault interactions. This idea is a natural follow-on of the scenario model development of the LANL 2007 PSHA; however, none of the experts engaged in the LANL 2007 PSHA argued that that such a model would reduce uncertainties in the computed hazard. Additionally, the recommendations for future studies presented in Section 10 of the LANL 2007 PSHA do not specifically include development of a kinematic fault interaction model of the Pajarito fault system, although such a study could help refine seismic source

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north and 2500 ft east of the proposed CMRR-NF based on zones of intense fractures in outcrops along Pajarito Road west and south of TA-55 and in Mortandad Canyon north of TA-55. The close location of active faults in Wohletz (2004) greatly increases the seismic hazard for the proposed CMRR-NF at LANL TA-55.

The fault locations that were used in the LANL 2007 PSHA Report and the DOE 2011 draft SEIS are displayed below on Figures 1 and 2. For comparison, the locations of the zones of intense fractures as evidence of active faults in the LANL report by Wohletz (2004) are displayed below on Figure 3. **241-10 cont'd**

The reports we reviewed describe an ongoing increase in the seismic activity in the network of many faults and associated folds in the very complex youthful PFS in the region of LANL. The reasons for the ongoing increase in seismic activity are described in an important report by scientists on the LANL Seismic Hazards Geology Team (Lewis et al., 2009). Our report includes much information from Lewis et al., 2009. The PFS may now cause powerful ground-rupturing earthquakes with a Richter magnitude possibly greater than 7.5. A much lower Richter magnitude of 7.27 was used to assess the seismic hazard at the proposed CMRR-NF. The potential for even more powerful ground-rupturing earthquakes will increase in the future along with a decrease in the time between the ground-rupturing earthquakes (LANL 2007 PSHA; Lewis et al., 2009). **241-13**

In Summary, the reports we reviewed show the assessment of the seismic hazard at the proposed CMRR-NF in the DOE 2011 draft SEIS and in the LANL 2007 PSHA is unacceptable because it does not meet the mandate of the DNFSB. In addition, the assessment does not recognize the large ground motions from synchronistic surface-ruptures of multiple earthquakes and is based on 1). incomplete knowledge of the locations of key faults, 2). incomplete knowledge of key parameters, 3). expert judgment of sparse data and assumed values for many key parameters instead of accurate scientific knowledge, and 4). the calculations of seismic hazard, as a result, are all incorrect and without technical basis.

parameters. It is nevertheless prudent to consider such interactive fault models (kinematic and dynamic) in the future for possible application to the Pajarito fault system.

See the response to comment 241-10 (below) with respect to location of nearest active faults.

241-10 Lewis et al. (2009) states that the southern extent and amount of displacement on the Guaje Mountain fault are not well constrained. Detailed geologic mapping of the area between the mapped southern termination of the Guaje Mountain fault and the northern side of Los Alamos Canyon has not yet been undertaken. That said, studies have completed detailed geologic mapping of LANL from Los Alamos Canyon to the north to Pajarito Canyon to the south, and from the Pajarito fault escarpment to the west to TA-46 to the east (for example, Gardner et al. 1999; Lavine et al. 2003). These studies carefully looked for the presence or absence of surface faulting associated with the Rendija Canyon and Guaje Mountain faults within LANL property. Geologic mapping at LANL to identify surface faulting is summarized by Animation 1 in Lewis et al. (2009).

Lewis et al. (2009) shows that the Rendija Canyon fault trends southward to Los Alamos Canyon, then splays southwesterly into a broad zone of deformation in LANL's TA-3. Surface faulting from the Rendija Canyon fault was not identified due south of Los Alamos Canyon, including at TA-55. The surface expression of the Guaje Mountain fault is not visible south of Pueblo Canyon, including within LANL property.

Using the data presented in Lewis et al. (2009), as a comprehensive, peer-reviewed report and map of the Pajarito fault system, the following can be stated with respect to distances from the center of the proposed CMRR-NF:

- The nearest geologic structure with lateral continuity is associated with the Rendija Canyon fault, located approximately 3,300 feet (1,000 meters) west-northwest of the center of the proposed CMRR-NF. This geologic structure is located within the "horsetail" splay of the Rendija Canyon fault, in the western portion of TA-64, exhibits 3 feet (1 meter) of down-to-the-west displacement, and has a mapped length of approximately 100 feet (30 meters).
- The location at the north side of Los Alamos Canyon, where the Rendija Canyon fault changes its trend from southerly to southwesterly, is located

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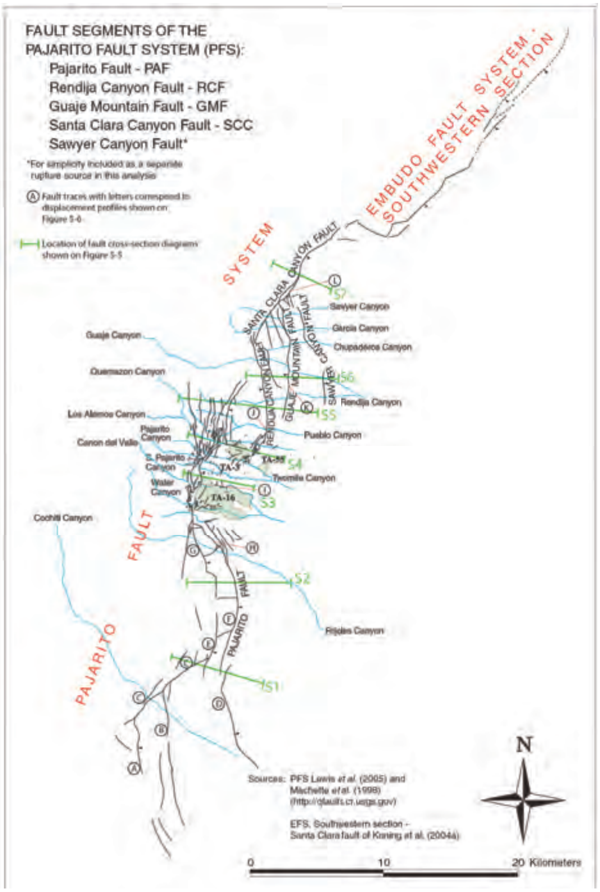
Figure 1. Map of the Pajarito Fault System and Embudo Fault System – Southwestern Section in Northern New Mexico. **Source:** Figure 5-4 in LANL 2007 PSHA Report.



241-10 cont'd

approximately 6,250 feet (1,910 meters) north of the center of the proposed CMRR-NF.

- The mapped southern termination of the Guaje Mountain fault, north of Pueblo Canyon, within the Los Alamos townsite, is approximately 13,000 feet (4,000 meters) north-northeast of the center of the proposed CMRR-NF.

These data presented above, which are consistent with those provided in Chapter 3, Section 3.5, Geology and Soils, correspond to data used to calculate design-basis earthquake ground motions for the CMRR-NF.

It is important to note that precise locations of the strands of the Pajarito fault system, with respect to the CMRR-NF, are not needed for estimating the ground-shaking hazard at the site. The ground motion prediction models "flatten" out at short distances, less than a few kilometers for large magnitude earthquakes (magnitude > 6.5), so the hazard is not sensitive to uncertainties in faults locations of hundreds of meters. Precise fault locations are needed for assessing the hazard from surface fault rupture, but as further described below in the responses to comments 241-14 and 241-17, the potential for surface faulting at the CMRR-NF is considered very low.

The fault shown 800 feet (240 meters) west of the proposed CMRR-NF, by Vaniman and Wohletz (1990) and Wohletz (2004), is an inferred fault, meaning that the fault is interpreted to be present at some depth below the location at which it is mapped; however, no evidence for surface-rupturing faults was found along that mapped trace. The work of Vaniman and Wohletz helped spur the LANL Seismic Hazards Program to conduct detailed, site-specific studies around TA-55 (for example, Gardner et al. 1998, 1999, 2008) to determine the presence or absence of surface-rupturing faults, using detailed investigative methods. These methods included conventional geologic mapping at 1:1,200 scale, high-precision total station geologic mapping of Bandelier Tuff subunit contacts to identify faults, and large-scale trenching investigations at the site of the proposed CMRR-NF. Gardner et al. (1998, 1999) identified no faults or offsets along geologic contacts suggesting the presence of a fault at TA-55. Although Gardner et al. (2008) did observe some fractures and small faults confined within units of the tuff, they concluded that fractures and faults exposed at the proposed CMRR site formed very shortly after emplacement of the tuff, 1.26 million years ago, as a result of cooling and compaction, and the structures identified at the

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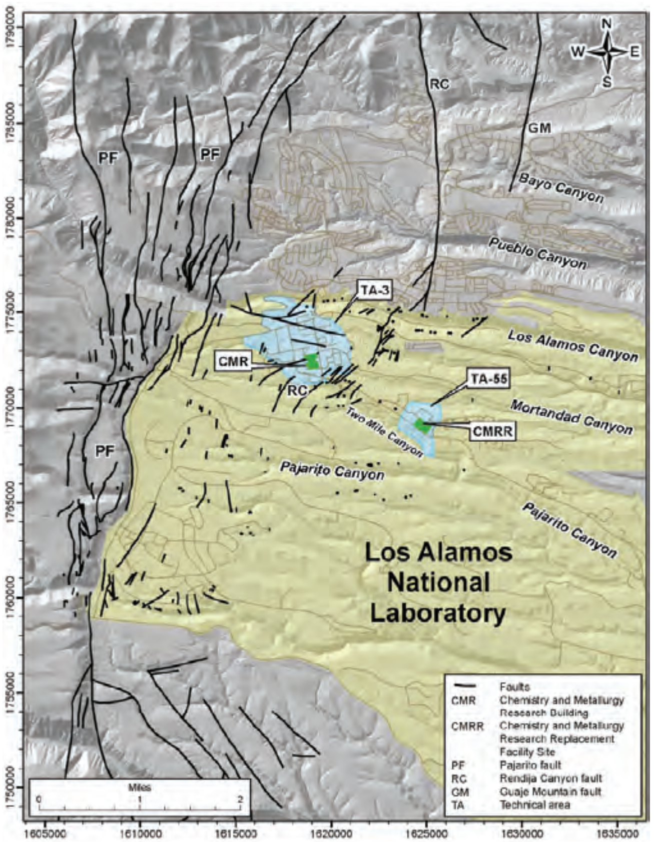
Figure 2. Mapped Faults in the Los Alamos National Laboratory Area.
Source: Figure 3-5 in the DOE 2011 SEIS for locating the proposed CMRR Nuclear Facility at LANL TA-55.



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241-10 cont'd

proposed CMRR-NF site pose no independent seismic surface rupture hazard. No evidence for active faulting was identified by Gardner et al. (1998, 1999, 2008) near the proposed CMRR-NF, as inferred by the early study of Vaniman and Wohletz (1990) and Wohletz (2004).

The work of Lewis et al. (2009) is a comprehensive, peer-reviewed report and map on the Pajarito fault system. Using data presented in Lewis et al. (2009), the nearest laterally continuous, surface-rupturing fault to the proposed CMRR-NF is located approximately 3,300 feet (1,000 meters) to the west-northwest, in the western portion of TA-64, with 3 feet (1 meter) of down-to-the-west displacement.

241-11 Per DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, final or detailed design cannot be started until the NEPA document (Final SEIS in this case) has been completed, so as not to prejudice the outcome, or restrict or narrow the range of alternatives to be considered. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

241-12 The Poisson model or process that is used in the LANL 2007 PSHA report is a state-of-practice model for the recurrence of earthquakes in a PSHA (SSHAC 1997). As described by SSHAC (1997), this model is fundamental to earthquake hazard assessment and is found to correctly model the random occurrence of earthquakes, excluding dependent events such as foreshocks and aftershocks of large earthquakes. In some instances, time-dependent models may also be incorporated in a PSHA (SSHAC 997); however, the paleoseismic data (information on ancient seismic events) for the Pajarito fault system are not adequate at this time to develop a time-dependent model for the LANL PSHA. Future additional geologic investigations may reduce slip rate uncertainty, but are not likely to impact the application of the Poisson earthquake recurrence model.

241-13 There is no geologic or seismologic evidence that the rate of occurrence of surface-faulting earthquakes (magnitude > 6.5) is increasing along the Pajarito fault system. Paleoseismic investigations indicate that three large earthquakes ruptured along the Pajarito fault system during the Holocene period (past 11,000 years), suggesting that this recent activity may represent a temporal cluster in the long-term behavior of the fault (LANL 2007; Lewis et al. 2009). However, this possible pattern in the activity rate of the Pajarito fault system has

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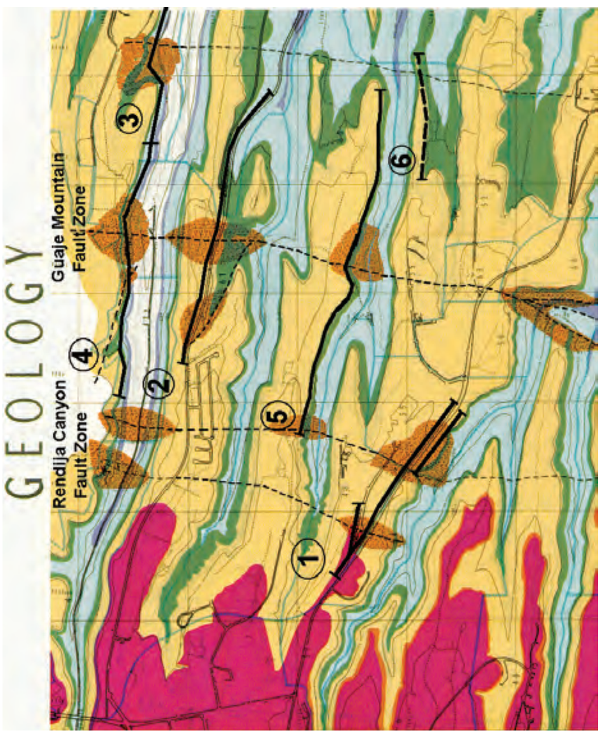
Figure 3. Map in 2004 LANL Report by Wohletz showing proposed location of Rendija Canyon Fault along the western boundary of LANL TA-55 and Guaje Mountain Fault 2500 feet east of the eastern boundary of TA-55.
Source: Figure 14 in Wohletz, 2004 (LA-UR-04-8337).



Scale 0-------------------1950 feet

------------ dashed black lines show trend of inferred faults

Brown patches along dashed black lines are intense fracture zones

Circled numbers 1 to 6 have no relation to intense fracture zones.

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241-10 cont'd

been incorporated into the PSHA (LANL 2007). There is also no geologic or seismologic evidence that would suggest that the maximum potential earthquake along the Pajarito fault system is increasing in size. The maximum earthquake for the Pajarito fault system has been estimated for the PSHA based on observed fault displacements from past earthquakes and rupture dimensions of the potential fault rupture. Over the lifetime of the CMRR Facility and much longer, that is, thousands of years, the level of seismic hazard at the CMRR site is not expected to change because there are not expected to be changes in the maximum potential earthquake and activity rates of the Pajarito fault system. The general behavior of the Pajarito fault system is not expected to change over the time scale of the next century. Also see the response to Comment 241-15 (below) for more information on the maximum magnitude earthquake that could occur near LANL.

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- ***Comment by Gilkeson and Arends.*** *Our review of DOE and LANL reports discovered that the DOE 2011 draft SEIS misrepresents the overall incomplete and incorrect knowledge of the seismic hazard at the location of the proposed CMRR-NF and at the other LANL critical facilities. <u>We estimate the field studies to acquire the required data and subsequent analysis to provide accurate knowledge of the seismic hazard at the proposed CMRR-NF and the other LANL critical facilities will require between ten and twenty years if the required funding is provided.</u>* 241-8 cont'd

- The reports that we have reviewed include the following:

- **<u>DNFSB 21st Report to Congress</u>** Defense Nuclear Facilities Safety Board (DNFSB) TWENTY-FIRST ANNUAL REPORT TO CONGRESS – FEBRUARY 2011

- **<u>DOE 2011 draft SEIS</u>** Draft Supplemental Environmental Impact Statement For The Nuclear Facility Portion Of The Chemistry And Metallurgy Research Building Replacement Project At Los Alamos National Laboratory, Los Alamos, New Mexico DOE/EIS-0350-S1 April 2011

- **<u>Gardner et al., 2008</u>** *"Fault Geology and Structure of the Chemistry and Metallurgy Research Facility Replacement Site, Los Alamos National Laboratory, New Mexico"* by Jamie N. Gardner, Emily S. Schultz-Fellenz, Florie A. Caporuscio, Claudia J. Lewis, Richard E. Kelley and Mary K. Greene. LA-14378, Issued: October 2008.

- **<u>Kleinfelder 2007 Geotechnical Report</u>** Geotechnical Engineering Report Chemistry and Metallurgy Research Facility Replacement (CMRR) Project Los Alamos National Laboratory, Kleinfelder Project No. 19435, Rev 0.

- **<u>Lavine et al., 2005</u>** *"Evaluation of Faulting at the Chemistry and Metallurgy Research Facility Replacement (CMRR) Site Based on Examination of Core from Geotechnical Drilling Studies, TA-55, Los Alamos National Laboratory"* by Alexis Lavine, Jamie N. Gardner and Emily N. Schultz LA-14170 Issued: January 2005

- **<u>LANL 2007 PSHA Report</u>** Wong, I., Silva, W., Olig, S., Dover, M., Gregor, N., Gardner, J., Lewis, C., Terra, F., Zachariasen, J., Stokoe, K., Thomas, P., and Upadhyaya, S., 2007, Update of the probabilistic seismic hazard analysis and development of seismic design ground motions at the Los Alamos National Laboratory: Oakland, California, URS Corporation, 1 volume.

- **<u>LANL 1995 PSHA Report</u>** Wong, I., Kelson, K., Olig, S., Kolbe, T., Hemphill-Haley, M., Bott, J., Green, R., Kanakari, H., Sawyer, J., Silva, W., Stark, C., Haraden, C., Fenton, C., Unruh, J., Gardner, J., Reneau, S., and House, L., 1995, Seismic hazards evaluation of the Los Alamos National Laboratory: Oakland, California, Woodward-Clyde Federal Services, 3 volumes.

- **<u>Lewis et al., 2009</u>** *"Fault interaction and along-strike variation in throw in the Pajarito fault system, Rio Grande rift, New Mexico"* in the June, 2009 issue of *Geosphere* by Claudia J. Lewis, Jamie N. Gardner, Emily S. Schultz-Fellenz, Alexis Lavine, Steven L. Reneau - *Los Alamos National Laboratory, EES-16, MS D452, Los Alamos, New Mexico 87545, USA* <u>and</u> Susan Olig - *URS Corporation, 1333 Broadway, Suite 800, Oakland, California 94612, USA,* LA-UR-06-2158.

- **<u>Vaniman, D. and Wohletz, K., 1990,</u>** "Results of Geological Mapping and Fracture Studies: TA-55 Area", Unpublished Memo Report, Report EES1-SH90-17, Los Alamos National Laboratory, Los Alamos, NM.

- **<u>Wohletz, K.H., 2004</u>** *"Tuff Fracture Characterization Along Mortandad Canyon Between OU-1114 and OU-1129",* Report LA-UR-04-8337, Los Alamos National Laboratory, Los Alamos, NM (as cited in Kleinfelder 2007 Geotechnical Report)

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Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

Background for the neoseismic setting of the growing PFS. LANL is located within the Rio Grande Rift, an intracontinental Neogene structural feature that dominates the seismotectonic setting of the LANL region. It is a continental rift system characterized by basin subsidence. A published paper by scientists on the LANL Seismic Hazards Geology Team (Lewis et al., 2009) describes the physical setting of the PFS as follows on page 252:

> The seismically active Pajarito fault system (PFS) of northern New Mexico, United States, is a complex zone of deformation made up of many laterally discontinuous faults and associated folds and fractures that interact in ways that have important implications for seismic hazards.
>
> The PFS [See Figures 1 and 2 on pages 7 and 8] is tectonically active, comprising the active bounding faults of the Española basin of the Rio Grande rift, and is the subject of ongoing paleoseismic investigations.
>
> Evidence for fault interaction, and the presence of prominent bends in the Pajarito fault system, imply structural control of paleoseismicity and neoseismicity and suggest the potential for stress concentrations and earthquake triggering in complex linking fault systems.
>
> Despite the importance of understanding the geometry of the fault system and potential linkage among faults for purposes of seismic hazard analysis, a robust kinematic model of the [Pajarito] fault system is lacking.

The above statement that "a robust kinematic model of the PFS is lacking" describes an important deficiency in the current knowledge of the seismic hazard at the location for the proposed CMRR-NF and at other critical facilities at the LANL Site. The need for a robust kinematic model of the PFS is described throughout this report. The LANL 2007 PSHA Report describes the lack of the data required for a kinematic model on page 28 in this report.

Figure 1 above on page 7 shows the network of fault segments in the PFS where the LANL Seismic Hazards Geology Team recommends a robust kinematic model. Our review shows that the knowledge required for a robust kinematic model does not exist. Accurate knowledge is necessary of 1), the locations of the discrete faults, 2). the geometry in the subsurface of the discrete faults, and 3). the potential linkage among the discrete faults for purposes of seismic hazard analysis at the location of the proposed CMRR-NF at LANL TA-55 and at other LANL critical facilities. The location of the proposed CMRR-NF is displayed above on Figure 2.

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Comparison of Figures 2 and 3 shows that there is disagreement between the LANL scientists on the location of active faults close to the proposed CMRR-NF at LANL TA-55. The fault locations of Figure 2 are based on mapping of fault displacements from field investigations by LANL scientists on the Seismic Hazards Geology Team. The fault locations on Figure 3 are based on mapping of intense zones of fracturing in field investigations by LANL scientist Kenneth H. Wohletz (Wohletz, 2004). Some of the intense zones of fracturing are associated with large displacement faults. However, faults are not identified in the upper part of the Bandelier Tuff for the intense zones of fracturing on Figure 3 that are located close to the proposed CMRR-NF. The issue of the zones of intense fracturing mapped by Wohletz is Issue 1.D on page 34.

241-14

241-14 Early seismic reflection studies by Dransfield and Gardner (1985) found evidence of the Rendija Canyon and Guaje Mountain faults below the ground surface, south of respective mapped surficial traces. This work prompted the creation of the LANL Seismic Hazards Program to investigate whether these deep faults were found at the ground surface. Geophysical studies using new investigative technologies have not been undertaken since the Dransfield and Gardner (1985) study. The fracture zones mapped by Vaniman and Wohletz (1990) and Wohletz (2004) triggered further detailed geologic studies in TA-55 to determine the presence or absence of surface-rupturing faults, using high-precision geologic mapping. No surface faults were found at TA-55, and the zones of higher-density fracturing were found not to correlate to regions of surface faulting (Reneau et al. 1995; Gardner et al. 1998, 1999, 2008). While Lewis et al. (2009) describe portions of the Pajarito fault system as buried faults, these descriptions refer to the trace of the main fault. Lewis et al. (2009) recognized that the main Pajarito fault is a discrete fault plane at depth, which manifests itself at the ground surface as a broad, diffuse zone of small faults. The surficial faults record paleoseismic activity on the Pajarito fault system, as described in several reports (for example, Reneau et al. 2002; Gardner et al. 2003; McCalpin 2005).

In the photograph of the fault scarp that formed during the 1954 Dixie Valley earthquake the vertical free face that offsets the alluvial fan surface is indeed a fresh surface rupture that occurred during the 1954 earthquake. The surface rupture occurred on a pre-existing late Quaternary fault (Caskey et al. 2004). This is not to say that new faults cannot form. However, they are much less likely than reactivation of pre-existing faults.

In addition, the comment asserts that fractures found in dacite in deep boreholes at the site of the proposed CMRR-NF "[are] an indication that active faults may be present in the dacite below the location of the proposed CMRR-NF." Deep geotechnical borings were drilled at TA-55 to characterize the complete geologic column down to the basement bedrock level. These borings were completed for geotechnical characterization of the subsurface and not for the purpose of identifying the presence or absence of deep faults. Three boring locations were initially identified; however, only two borings were deemed necessary to provide corroborative characterization of the deeper portions of the geologic column. The third boring was identified as an alternative and would have been drilled only if the currently planned site at TA-55 were deemed not viable. Borehole DSC-1B was drilled to a depth of 741 feet below ground surface (226 meters), while borehole DSC-2A reached a total depth of 550 feet below

Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

Comment by Gilkeson and Arends. *The zones of intense fractures mapped in Wohletz (2004) cannot be ignored. They may be evidence of active faults which are buried in the subsurface close to the location of the proposed CMRR-NF. The discussion in Lewis et al., 2009 is that active faults may be buried within the Bandelier Tuff and are propagating upward. The buried active faults may produce ground-surface ruptures during future earthquakes (see discussion on page 37 in this report).Also, see the discussion of the 1954 Dixie Valley – Fairview Peak Area Earthquakes on pages 15-16 and the picture of a fault scarp formed by the 1954 earthquake.*

The necessary field investigations to determine the presence of active faults buried in the Bandelier Tuff at the locations of the intense fractures close to the proposed location of the CMRR-NF have not been performed. Without the field investigations, DOE is required to assume that the locations of the intense fractures on Figure 3 identify the locations of active faults and calculate the seismic hazard at the proposed CMRR-NF accordingly.

241-14 cont'd

The youthful status of the PFS is because of the powerful volcanic activity in the vicinity of LANL beginning 16.5 million years ago to form the Jemez Mountains. The volcanic activity is described on page 3-20 in the DOE 2011 draft SEIS as follows:

> Volcanic activity began forming the Jemez Mountains approximately 16.5 million years ago and continued sporadically to the most recent eruptions that produced the El Cajete [Ash] Fall, about 50,000 to 60,000 years ago (Reneau et al. 1996). Future volcanic activity in the Jemez Mountains is likely, but recurrence intervals have not been firmly established (DOE 2003b). The unusually low amount of seismic activity in the Jemez Mountains has been reinterpreted to indicate that seismic signals of magma movement are partially absorbed deep in the subsurface, due to elevated temperatures and high heat flow (LANL 2004). The significance of this to LANL is that magma movement indicates that the Jemez Mountains continue to be a zone of potential volcanic activity.

The Pleistocene age Bandelier Tuff forms the near surface bedrock at LANL. The Bandelier Tuff consists of two members that were erupted as a series of ash flows during enormous caldera-forming volcanic events 1.61 million years ago (Otowi Member) and 1.25 million years ago (Tshirege Member). The volcanic eruptions that deposited the Bandelier Tuff are estimated at a total volume of rhyolitic ash flow tuffs of 650 cubic kilometers (dense rock equivalent) (*see* page 253 in Lewis et al., 2009). The large eruptions created the Pajarito Plateau. The young age and large areal extent of the Bandelier Tuff is an important factor for the youthful properties of the network of faults in the PFS.

Figure 4 below is cross-section D-E' on page 263 in Lewis et al., 2009 that illustrates the large number of faults in the PFS that have propagated upward through the Bandelier Tuff. The enlarged view of the western part of cross-section D-E' shows three parallel faults where two of the faults do not propogate upward through the Bandelier Tuff. The two faults have been inactive for the past 1.25 million years.

241-13 cont'd

ground surface (168 meters). The geologic formations that are most relevant to TA-55 are those that would influence seismic ground response and foundation performance. Seismic ground response, as determined by these two deep seismic characterization borings, is affected by the relatively high seismic wave velocity of the basement rocks, consisting of the Cerros del Rio basalt and Tschicoma Formation dacite (both of which are relatively hard volcanic rocks), and the much lower seismic wave velocities of the overlying, softer Bandelier Tuff. From data provided by Kleinfelder (2007a), DSC-1B was the only deep borehole to penetrate into the Tschicoma Formation dacite. In addition, the presence of the relatively soft Qbt3L between two stiffer units, Qbt3U and Qbt2, is important with respect to the seismic ground response of the site (Kleinfelder 2007a).

Kleinfelder (2007a) states that the sampled portion of the Cerros del Rio basalt and Tschicoma Formation dacite was highly fractured and vesicular. Fracturing and vesiculation are common features of chilled upper portions of relatively harder volcanic flows (Fink and Anderson 2000), and such features are expected in the upper 40 to 50 feet (12 to 15 meters) of a dacite flow that is hundreds of feet thick, such as the Tschicoma Formation dacite below the proposed CMRR-NF.

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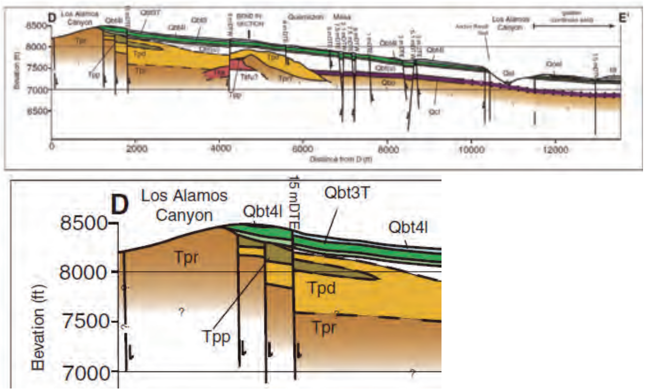
Figure 4. West to East Cross-Section D-E' on page 263 in Lewis et al., 2009.



Note. The vertical arrows show the side of the discrete faults where displacement is downward. 15mDTE means the vertical displacement is 15 meters (49 feet) downward to the east.

An additional important factor is that the youthful PFS is currently at a growth stage where the interaction between the primary Pajarito Fault (PF or PAF) and the subsidiary Rendija Canyon Fault (RCF) and Guaje Mountain Fault (GMF) often results in multiple ground-breaking ruptures from two of the three faults (Lewis et al., 2009). The powerful multiple surface-rupturing earthquakes are described on page 3-25 in the DOE 2011 draft SEIS as follows:

> New paleoseismic data argue for three Holocene (past 11,000 years) surface-rupturing earthquakes, including an earthquake on the Pajarito Fault, approximately 1,400 years ago; an earthquake on the Pajarito Fault approximately 5,000 to 6,000 years ago, which is consistent with an event during the same general time frame on the Guaje Mountain Fault; and a third earthquake on both the Pajarito and the Rendija Canyon Faults, approximately 9,000 years ago. This paleoseismic event chronology demonstrates that the Pajarito Fault often ruptures alone, but sometimes ruptures either with the Rendija Canyon Fault or Guaje Mountain Fault. When this occurs, the resultant seismic moment and, therefore, the earthquake magnitude are larger than when the main Pajarito Fault ruptures alone. Given the evidence for youthful movement on the Pajarito Fault system, future ruptures should be expected. <u>This fault system is capable of producing earthquakes up to Richter magnitude 6.5 to 7.0 (LANL 2007a; Lewis et al., 2009)</u> [Emphasis Supplied].

241-13 cont'd

Comment by Gilkeson and Arends. *The above statement in the DOE 2011 draft SEIS that* "This fault system is capable of producing earthquakes up to Richter magnitude 6.5 to 7.0 (LANL 2007a; Lewis et al., 2009)" *is incorrect because the historic earthquakes on*

241-15

241-15 NNSA has revised Chapter 3, Section 3.5, Geology and Soils, which incorrectly stated the maximum earthquake of the Pajarito fault system as Richter magnitude 6.5 to 7.0. These incorrect maximum earthquake magnitudes stated in the draft SEIS are not reflective of information presented in the PSHA and were not used in the design-basis earthquakes for the proposed CMRR-NF.

Richter magnitudes (M_L) can differ from moment magnitudes (M_w), especially at large magnitudes. Therefore, to make a direct "apples to apples" comparison, the magnitude values should be compared using the same scale. All magnitudes used in the LANL PSHA were in terms of M_w, not M_L, based on the latest geologic data, including those published in Lewis et al. (2009) and documented in the PSHA update (LANL 2007), expected maximum magnitudes for the various rupture scenarios of the Pajarito fault system range from M_w 6.5 to 7.3, and these were input as preferred values with a weight of 0.6 in the analysis. The expected magnitudes were calculated using well-established and widely accepted empirical relations (Wells and Coppersmith 1994). Results were checked and peer-reviewed by an internationally recognized Participatory Peer Review Panel during the PSHA update (LANL 2007). Additional uncertainties of ±0.3 moment magnitude (with a weight of 0.2 each) were included so that the M_w inputs into the PSHA were as large as 7.6, depending on the rupture scenario (LANL 2007). The estimated size of the 1959 Hebgen Lake earthquake is M_w 7.3, whereas the 1983 Borah Peak earthquake was smaller, at M_w 6.8 (Doser and Smith 1985). Thus, the range of maximum magnitudes used to calculate design-basis ground motions for the CMRR-NF incorporates the magnitudes of historic earthquakes that might be considered analogues for rupture of the Pajarito fault system.

The statement in the 1997 SSHAC guidelines "in cases where the maximum historical earthquake has not been assessed to be equivalent to the maximum possible earthquake, past practice has included adding an increment of one-half magnitude unit or one intensity unit to the maximum historical earthquake" is for area sources, not active faults. This statement also refers to "past practice." Current practice for estimating the maximum magnitude for an area source is based on evaluating the maximum earthquake in analogue seismotectonic regions. For an active fault, SSHAC (1997) describes two general approaches: constraints provided by historical seismicity and estimates of maximum rupture dimensions. Given the lack of significant historical seismicity on the Pajarito fault system, the latter approach has been used to estimate the maximum earthquake in addition to fault displacements from paleoseismic investigations.

fault analogs that are described in LANL 2007a (the LANL 2007 PSHA Report) and in Lewis et al., 2009 show that the PFS is now capable of producing ground-rupturing earthquakes up to Richter magnitude 7.5. The LANL 2007 PSHA Report and Lewis et al., 2009 describe the young and growing PFS may be capable of producing even more powerful ground-rupturing earthquakes during the operating life of the proposed CMRR-NF. The knowledge of the PFS that was presented in the LANL 2007 PSHA and in the DOE 2011 draft SEIS is not adequate to accurately calculate the Richter magnitude power of the PFS at this time or the increase in the Richter magnitude power that may occur over the operating life of the proposed CMRR-NF.

In fact, the historical information on earthquake analogs presented in Lewis et al., 2009 and in the LANL 2007 PSHA Report describe the 50-km (30 mile) long Pajarito Fault System (PFS) at LANL is now capable of producing ground-rupturing earthquakes up to a 7.5 Richter magnitude. The two reports cite analog examples for the PFS, including the 7.3 – 7.5 Richter magnitude 1959 Hebgen earthquake in Montana; the 7.3 Richter magnitude 1983 Borah Peak earthquake in Idaho; and the pair of 7.1 and 6.8 Richter magnitude earthquakes in the Dixie Valley – Fairview Peak Area of Nevada. We detail these 6.8 to 7.5 Richter magnitude earthquakes below:

1959 Hebgen Lake Earthquake 7.3 – 7.5 Richter Magnitude. The LANL 2007 PSHA Report on page 5-17 describes the collapsed Yellowstone caldera and the network of faults that are responsible for the 7.3 – 7.5 Richter magnitude Hebgen Lake earthquake as an analog for the Valles Caldera and PFS as follows:

241-15 cont'd

> Another example of a synchronous rupture that is a possible analog for the PFS is the **M** 7.3 1959 Hebgen Lake earthquake [Emphasis Supplied], which involved multiple discrete faults and two subevents: a mb 6.3 event followed 5 seconds later by a mb 7.0 event (Doser, 1985). This is a good possible analog for the PFS because 1) it occurred in a region adjacent to a Quaternary caldera, as does the PFS; 2) it clearly involved multiple overlapping but distinct faults (rupture segments) with complex geometries, including opposing dips like the PFS; 3) it was dominantly extensional; and, 4) it had large displacements [23 feet], as is suggested for the PFS [Emphasis Supplied].

The 7.3 – 7.5 Richter magnitude of the Hebgen Lake earthquake is described as follows in the U.S. Geological Survey Fact Sheet 2005-3024 issued in 2005:

> The Hebgen earthquake of August 17, 1959 occurred at 11:37 p.m. Mountain Standard Time. The earthquake had a Richter magnitude of 7.3 – 7.5.

The 23 ft maximum displacement on fault scarps from the 1959 Hebgen Lake earthquake was described in the U.S Geological Survey Earthquake Information Bulletin, Volume 6, Number 4, July - August, 1974, by Carl A. von Hake:

> Major new fault scarps were formed along existing normal faults northeast of Hebgen Lake. A maximum vertical displacement of 7 meters (23 feet) was observed near Red Canyon Creek.

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1983 Borah Peak, Idaho Earthquake – 7.3 Richter Magnitude. The LANL 2009 report by Lewis et al., describes the 1983 Borah Peak earthquake in Idaho as an analog for the PFS at LANL as follows on page 267:

> A possible analog for the convex bend near St. Peter's Dome on the Pajarito Fault is the Borah Peak horst in Idaho, which is at the convex intersection of two normal fault segments, one of which (the Lost River fault) ruptured in the Borah Peak earthquake (Susong et al., 1990). The intersection zone at the Borah Peak horst is thought to have influenced earthquake nucleation and arrest for millions of years (Susong et al., 1990).

The 7.3 Richter magnitude of the Borah Peak earthquake was described in a paper in a refereed journal – *"The Borah Peak, Idaho Earthquake of October 28, 1983 – Summary"* by Lawrence D. Reavely, in *Earthquake Spectra* 2, pp. 1-9 (1985):

> The Borah Peak, Idaho earthquake of October 28, 1983 occurred at 8:07 a.m. Mountain Daylight Time. This earthquake which had a Richter magnitude of 7.3, was the largest earthquake to occur in recorded history (since 1872).

The 7.3 Richter magnitude of the Borah Peak earthquake was also described in a paper in the peer reviewed *Bulletin of the Seismological Society of America*; June 1987; v. 77; no. 3; p. 739-770 – *"Surface faulting accompanying the Borah Peak earthquake and segmentation of the lost river fault, central Idaho"* by Anthony J. Crone, Michael N. Machette, Manuel G. Bonilla, James J. Lienkaemper, Kenneth L. Pierce, William E. Scott and Robert C. Bucknam (Crone et al., 1987). The excerpt below is from the abstract of Crone et al., (1987);

> On the morning of 28 October 1983, the M_s 7.3 Borah Peak earthquake struck central Idaho and formed a Y-shaped zone of surface faults that is divided into a southern, a western, and a northern section. The total length of the surface faults is 36.4 ± 3.1 km, and the maximum net throw is 2.5 to 2.7 m. The near-surface net slip direction, determined from the rakes of striations in colluvium, averaged 0.17 m of sinistral slip for 1.00 m of dip slip.

1954 Dixie Valley - Fairview Peak Area, Nevada Earthquakes – 7.2 and 6.8 Richter Magnitude. The LANL 2007 PSHA Report on page 5-17 describes the two earthquakes in the Dixie Valley – Fairview Peak Area as follows:

> - We found it surprising that the 16 December 1954 Dixie-Valley Fairview Peak rupture was not a synchronous rupture because the two events (MS 7.2 and MS 6.8) were too far apart in time (four minutes) for strong ground motions to constructively interfere at local sites. So this sequence would be considered to have involved a triggered, but separate, second event.

The following description of the Dixie Valley – Fair View Peaks Earthquakes is abridged from *Seismicity of the United States, 1568-1989 (Revised)*, by Carl W. Stover and Jerry L. Coffman, U.S. Geological Survey Professional Paper 1527, 1993:

> - **Note:** Because damage from the two earthquakes cannot be separated, they are treated as one event. . . The population was sparse in the epicentral region of this earthquake, and few man-made structures existed. Damage to

241-15 cont'd

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> structures, therefore, was minor despite the geologic and seismographic evidence of a major earthquake. . .The earthquake was accompanied by offsets along many faults in the four main zones of a north-trending belt 96 kilometers long by 32 kilometers wide (58 miles long by 19 miles wide). Minor geologic effects included changes in the flow of springs and wells, formation of craters and water fountains, landslips and landslides, mudflows, and rockfalls.
> - The fault displacements mainly were along normal faults in the following areas: (1) west of Dixie Valley, (2) southeast of Dixie Valley, (3) east of Fairview Peak, and (4) east of Stingaree Valley. The maximum strike-slip component was 3.6 meters (12 feet) of right-lateral movement at Fairview Peak, and the maximum vertical-slip component was 3.6 meters (12 feet) at Bell Flat.

241-15 cont'd

Below is a photograph of the fault scarp from the December 16, 1954 Dixie Valley earthquake. *Cover Photo* "Earthquakes in Nevada and How to Survive Them" – Nevada Bureau of Mines and Geology Special Publication E-16, Seventh Edition, January 2010

***Comment by Gilkeson and Arends.** The above photo shows a cabin sitting at an angle on the down-thrown side of the new fault scarp. The outhouse for the cabin is toppled over and is located west of the cabin on top of the fault scarp near the edge of the scarp. The man studying the fault scarp at a location between the outhouse and the cabin indicates the vertical displacement on the fault is approximately eight feet. The above photo provides evidence that this is a new fault scarp because it is common sense that the cabin was built on flat land and a previous fault scarp was not present between the path from the cabin to the outhouse. The above photo is evidence that earthquakes may produce new faults across landscapes where there is **no** evidence of historic fault scarps. The vertical fault scarp in the above picture shows that the bedrock is very hard and resistant to erosion. Therefore, there would have been a remnant of an earlier fault scarp on the landscape and between the cabin and outhouse but it is common sense that the outhouse was on a flat path from the cabin.*

241-14 cont'd

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The maximum Richter Magnitude of 7.5 for the analogous 1959 Hebgen Lake Earthquake was not considered in the design basis earthquakes for the proposed CMRR-NF. The identification of historical earthquakes that are analogs to the PFS is important for knowledge of the potential magnitude of ground-rupturing earthquakes that may occur at LANL. The incorrect statement on page 3-25 in the DOE 2011 draft SEIS that "This fault system is capable of producing earthquakes up to Richter magnitude 6.5 to 7.0" is not a small matter. This is because the recent historical earthquakes on fault networks that are analogs to the PFS have produced powerful ground-rupturing earthquakes up to a Richter magnitude of 7.5.

An example of an historic earthquake that is an analog to the PFS is the discussion above on page 14 of the synchronous ruptures from the1959 7.5 Richter magnitude Hebgen Lake Earthquake. ***A 7.5 Richter magnitude earthquake is about 31 times more powerful than a 6.5 magnitude earthquake.*** The energy of earthquakes is explained in a 1989 United States Geological Survey Earthquake Hazards Program publication http://earthquake.usgs.gov/learn/topics/richter.php as follows:

> The Richter magnitude of an earthquake is determined from the logarithm of the amplitude of waves recorded by seismographs. Adjustments are included for the variation in the distance between the various seismographs and the epicenter of the earthquakes. On the Richter Scale, magnitude is expressed in whole numbers and decimal fractions. For example, a magnitude 5.3 might be computed for a moderate earthquake, and a strong earthquake might be rated as magnitude 6.3. Because of the logarithmic basis of the scale, each whole number increase in magnitude represents a tenfold increase in measured amplitude; as an estimate of energy, each whole number step in the magnitude scale corresponds to the release of about 31 times more energy than the amount associated with the preceding whole number value [Emphasis Supplied].
>
> Earthquakes with magnitude of about 2.0 or less are usually called microearthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. Events with magnitudes of about 4.5 or greater - there are several thousand such shocks annually - are strong enough to be recorded by sensitive seismographs all over the world. Great earthquakes, such as the 1964 Good Friday earthquake in Alaska, have magnitudes of 8.0 or higher. On the average, one earthquake of such size occurs somewhere in the world each year. The Richter Scale has no upper limit. Recently, another scale called the moment magnitude scale has been devised for more precise study of great earthquakes.

241-15 cont'd

The 2007 LANL PSHA Report and the LANL report by Lewis et al., (2009) describe the growing power and increasing seismic hazard for the youthful PFS. The 2007 LANL PSHA Report describes an important comparison between the data presented in the 1995 and 2007 PSHA Reports as evidence of the large increase in the power of the youthful PFS and an increase in the seismic hazard from large ground-rupturing earthquakes is expected to continue during the operating life of the proposed CMRR-NF at LANL TA-55. From page 9-6 in the LANL 2007 PSHA Report:

> In the 1995 study, recurrence intervals were not used for most of the 26 rupture scenarios due to the lack of recurrence interval data. The weighted-mean recurrence interval was 32,000 years when they were used and the weighted-mean slip rate for most of the rupture scenarios was 0.182 mm/yr.

241-13 cont'd

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> In comparison, the weighted-mean recurrence for Rupture Model C, the strongly favored (weighted 0.85) model in this study is 8,400 years and the weighted-mean slip rate is 0.211 mm/yr (Figure 5-8). Sensitivity studies show that these higher rates have a significant impact on the hazard (Section 7.2.2) and so we know that increased rates on the PFS likely contributed measurably to the increase in hazard for this study, but we cannot specify exactly how much [Emphasis Supplied].

***Comment by Gilkeson and Arends**. The authors of the LANL 2007 PSHA Report acknowledge that the growing power of the PFS has caused an increase in the seismic hazard at LANL and the seismic hazard on the youthful PFS is continuing to increase into the future. Very importantly, the authors acknowledge they have not performed the field investigations to collect the data necessary to calculate the increase in the seismic hazard from the ongoing increase in slippage rates from the ongoing formation of unpredictable linkages between the discrete fault segments in the neoseismic PFS. The dynamics of the youthful and growing PFS are described as follows in the 2009 report by the LANL Seismic Hazards Geology Team (Lewis et al., 2009):*

> The seismically active Pajarito fault system (PFS) of northern New Mexico, United States, is a complex zone of deformation made up of many laterally discontinuous faults and associated folds and fractures that interact in ways that have important implications for seismic hazards (p. 252).
>
> Fault interaction has significant implications for seismic hazards. The probability of an earthquake rupture propagating from one fault to another increases with the degree of stress interaction between the faults (p. 265).
>
> Despite the importance of understanding the geometry of the fault system and potential linkage among faults for purposes of seismic hazard analysis, a robust kinematic model of the [Pajarito] fault system is lacking (p. 252).

***Comment by Gilkeson and Arends.** The DOE proposal to construct the $6 Billion CMRR-NF at LANL is unacceptable because the seismic hazard is not known but has been underestimated and incorrectly calculated at the present time. In addition, the LANL 2007 PSHA Report and Lewis et al., (2009) describe the PFS as increasing in power for higher magnitude earthquakes into the future at a rate that can not be calculated with current knowledge.*

Further, the design basis earthquakes for the proposed CMRR-NF is based on the incorrect calculations in the deficient 2007 PSHA; not for the increasing and accelerating seismic hazard in the future to 2073, the end of the operating life of the proposed CMRR-NF. DOE is required to retract the DOE 2011 draft SEIS and not submit a new draft SEIS until the comprehensive field investigations have been performed to provide accurate knowledge of the seismic hazard. After all, the DOE 2011 draft SEIS misrepresented the LANL 2007 PSHA Report as a "comprehensive update to the LANL seismic hazards analysis" (See discussion beginning on page 26 in this report).

From page 5-20 in the LANL 2007 PSHA Report:

> Interestingly, the scaling factor needed to adjust segment slip rates in order to achieve preferred target recurrence intervals is 2.11 (see footnote 6 of Table 5-14), which is essentially the same factor between the long term slip rate (0.1 mm/yr) and the weighted mean for the slip rate distribution derived from the RGR [Rio Grande Rift] analysis (cf., slip rate

241-13 cont'd

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> branch for Rupture Model C on Figure 5-8). Thus, the moment balancing approach is implying that the late Quaternary rates are about twice as fast as the long-term Quaternary rates (and the Holocene rates are about 8 to 10 times faster than the Quaternary rates). We already knew this from the paleoseismic data, but it is reassuring to see that our moment-balanced rates for Rupture Model B are consistent with our slip rates assigned to Rupture Model C [Emphasis Supplied].

Comment by Gilkeson and Arends. *Multiple lines of evidence confirm that the slip rates on the youthful PFS are increasing by a large amount and this proves the ground-rupturing power of future earthquakes is increasing by a large amount. The acceleration in the slip rates is direct evidence of a large and continuing increase into the future in the danger of the PFS for large ground-rupturing earthquakes with a Richter magnitude greater than 7.5 as described below on page ES-4 in the LANL 2007 PSHA Report:*

241-13 cont'd

> The new [2007] PSHA shows that the horizontal surface PGA [peak ground acceleration] values are about 0.5 g at a return period of 2,500 years. The 1995 horizontal PGA values for a return period of 2,500 years are about 0.33 g. The estimated hazard has increased significantly (including other spectral values) from the 1995 study due to the increased ground motions from the site-specific stochastic attenuation relationships and increase in the activity rate of the PFS. The site response effects as modeled in this study with the newer site geotechnical data appears to amplify ground motions more than in the 1995 analysis [Emphasis Supplied]. Other factors could be the increased epistemic uncertainty incorporated into the empirical attenuation relationships and in the characterization of the PFS.

Comment by Gilkeson and Arends. *The increase in horizontal surface peak ground acceleration (PGA) values from 0.3g to 0.5g from the 1995 PSHA to the 2007 PSHA is an increase of greater than 50% for the active PFS at the location of LANL TA-55 over a short period of time. A very important issue is that the actual value of the horizontal PGA for the proposed CMRR-NF is much greater than 0.5g because the calculations in the 2007 PSHA Report are incorrect for the large ground motions from multiple ground-rupturing synchronous earthquakes. The design of the proposed CMRR-NF was based on the much smaller ground motions from simultaneous ruptures from a single earthquake.* ***This issue is discussed on page 22 in this report.***

241-2 cont'd

The poor knowledge of the seismic hazard in the DOE 2011 draft SEIS and in the LANL 2007 PSHA Report increases the risk for the storage of six metric tons (13,230 pounds) of plutonium at LANL in the proposed CMRR-NF at TA-55 and also increases risk for continuing operations with special nuclear materials at existing facilities at the LANL site.

From page 9-6 in the LANL 2007 PSHA Report:

> In Table 9-4 [Note: Table 9-4 is below], we compare the PGAs from this study with the values from the 1995 study (Wong *et al.*, 1995) for the return periods of 1000, 2500, and 10,000 years. As shown in the table, the estimated probabilistic hazard has increased significantly (including other spectral values). The percentage increase gets larger with return period due to differences in slope of the hazard curves (Figure 9-348). For example, at a 1,000-year return period, the increase from the 1995 PGA values to the current study is about 29%. At 10,000 years, the

241-4 cont'd

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increase is 84% (Table 9-4). This increase may be due to a number of factors including the increase in the activity rate of the PFS [Emphasis Supplied].

Table 9-4
Comparison of Probabilistic Peak Horizontal Accelerations in g's From 1995 and Current Studies

Return Period	1,000 Years		2500 Years		10,000 Years	
Source	1995	This Study	1995	This Study	1995	This Study
CMRR	—	0.27	—	0.52	—	1.03
TA-03	0.21	0.27	0.33	0.52	0.56	1.03
TA-16	0.21	0.25	0.32	0.47	0.53	0.93
TA-55	0.22	0.27	0.33	0.52	0.56	1.03

Another important issue is that the design of the proposed CMRR-NF was based on the Peak Horizontal Ground Acceleration (PGA) values for a return period of 2500 years. However, Table 9-4 shows a 98% increase of the PGA from 0.52g to 1.03g at the location of the proposed CMRR-NF for a return period of 10,000 years. A 10,000 year return period earthquake may occur during the operating life of the proposed CMRR-NF.

In addition, all of the PGA values in Table 9-4 are on "shaky ground" without technical basis because of the overall poor scientific knowledge of the seismic hazard at LANL. The PGA values in Table 9-4 are incorrect and too low for the synchronous multiple-segment ruptures of the PFS and also underestimate and cannot calculate the future increase in the PGAs as demonstrated by the following statement in the LANL 2007 PSHA on page 9-6 about the increased rates of slip over time for the PFS:

> Sensitivity studies show that these higher [slip and recurrence] rates have a significant impact on the hazard (Section 7.2.2) and so we know that increased [slip and recurrence] rates on the PFS likely contributed measurably to the increase in hazard for this study, but we cannot specify exactly how much.

241-4 cont'd

Comment by Gilkeson and Arends. *The above statement shows that the PGA values in the LANL 2007 PSHA Report are not accurate for the ongoing increase in slip rates. The poor knowledge of the increase in the slip rates that will occur into the future will increase the seismic hazard at the location of the proposed CMRR-NF by a large but unknown amount. Another important factor is the poor knowledge of the locations and geometry of faults that produce ground motions at the location of the proposed CMRR-NF. The uncertainty about the location of faults and the increasing slip rates was not considered in the escalating cost for the proposed CMRR-NF from an original estimate of $350 Million to a current estimate approaching $6 Billion. Constructing the proposed $6 Billion CMRR-NF without accurate knowledge of the seismic hazard at the present time nor over the 50-year life of the proposed nuclear facility is unacceptable.*

241-13 cont'd

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The DOE used the Poisson Assumption to determine the seismic hazard at the proposed CMRR-NF at LANL TA-55 instead of performing the necessary field investigations to acquire accurate knowledge for assessment of the seismic hazard. Unfortunately, the great uncertainty in the assessment of the seismic hazard at the LANL Site is an accepted practice as shown by the following statement on page 2-1 in the 2007 LANL PSHA Report:

> **2.1 METHODOLOGY**
> The seismic hazard approach used in this study follows a methodology developed principally by Cornell (1968). The production of earthquakes by an identified fault or other seismic source zone is assumed to be a Poisson process. The Poisson assumption is widely used and is reasonable in regions where data are sparse and only provide an estimate of average recurrence rate (Cornell, 1968).

241-12 cont'd

The reliance on expert judgment to determine the seismic hazard at LANL because the applicable data were sparse is described on page 5-1 in the LANL 2007 PSHA Report as follows:

> <u>Specific earthquake parameters needed for the seismic source characterization are fault location, geometry, sense of slip, Mmax [maximum magnitude], and earthquake recurrence rate</u> [Emphasis Supplied]. Uncertainties in these seismic source parameters are sometimes large and include (1) those arising from lack of knowledge (epistemic uncertainties) and (2) those due to inherent variability in the earthquake process (aleatory uncertainties). The second type of uncertainty was handled by integration in the hazard calculations (Section 2); the first [i.e., the epistemic uncertainty], by use of a logic-tree approach. . . <u>In the current state of practice for PSHA, and as was done in this study, logic tree parameters are primarily assigned using expert judgment on the basis of applicable data, which are often sparse</u>. [Emphasis supplied].

241-3 cont'd

Comment by Gilkeson and Arends. *Our review of the LANL 2007 PSHA Report, Lewis et al., 2009, the 2007 geotechnical report by Kleinfelder (LANL Report LA-UR-10-08118) and the DOE 2011 draft SEIS, show an excessive and unacceptable use of expert judgment based on assumed values for key parameters in lieu of obtaining the specific earthquake parameters required for seismic source characterization.*

One example is that a robust kinematic model of the PFS is lacking (see excerpt from Lewis et al., 2009 above on page 18). A very important example is the lack of knowledge of the distance from the proposed CMRR-NF to the Guaje Mountain Fault (GMF) because the detailed field mapping has not been performed. The poor knowledge of the location of the GMF is a concern of the LANL Seismic Hazards Geology Team but is not disclosed in the DOE 2011 draft SEIS. This issue is discussed below in Issue 1.B beginning on page 26.

241-16

241-16 NNSA disagrees that the seismic hazard analysis relied on excessive and unacceptable use of expert judgement. SSHAC (1997) has developed the framework for incorporating the uncertainties associated with the range of interpretations for a set of observations and the uncertainties in specific parameters that would be encountered in any state-of-practice PSHA. SSHAC (1997) points out that differences of legitimate scientific interpretations occur on many if not all key inputs to a modern PSHA. The purpose of the SSHAC process is to capture the center, body, and range of expert interpretations (or more currently the defensible technical judgment) in a hazard assessment. Because the LANL 2007 PSHA followed the SSHAC (1997) process, it accommodated the interpretations of a large number of nationally and internationally known experts and reviewers who considered a large quantity of geological, seismological, geophysical, and geotechnical data and interpretations. Extensive use was made of logic trees to accommodate the range of interpretations and uncertainty in nearly all key parameters incorporated in the PSHA. As explained in the LANL 2007 PSHA, the logic trees represent uncertainty that can by definition always be reduced with additional data. DOE incorporates this uncertainty in facility design by requiring that the mean, rather than the median, hazard exceedance be used in design. Additional data collection and analysis could reduce the mean hazard for the CMRR site.

The use of logic trees also permits the exploration of hazard sensitivities to various key parameters and the LANL 2007 PSHA report illustrates many of those sensitivities (LANL 2007). A PSHA that makes limited use of logic trees, ignoring alternate interpretations of data and expert judgment, may have less overall hazard uncertainty, but would be criticized for failing to follow the SSHAC (1997) process.

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Issue 1.A. The DOE 2011 draft SEIS greatly underestimates the seismic hazard at the proposed CMRR-NF. This is because the LANL 2007 PSHA Report incorrectly calculated simultaneous earthquakes to produce a greater seismic hazard at the proposed CMRR-NF than multiple surface-rupturing synchronous earthquakes. In this section, we describe the contradictory findings and conclusions in the LANL 2007 PSHA Report concerning the seismic hazard at the proposed CMRR-NF from multiple synchronous versus simultaneous surface-rupturing earthquakes of the PFS. The requirement for accurate knowledge of the size of ground motions from synchronous and simultaneous ruptures of the multiple-segment PFS is described in the LANL 2007 PSHA Report as follows:

> **5.1.2.3 Types of Multisegment Ruptures.** Large earthquakes involving multiple fault segments can rupture in multiple subevents (synchronous rupture) rather than in just a single large event (simultaneous rupture) as is typically assumed and modeled in standard PSHAs. <u>The type of multisegment rupture (synchronous versus simultaneous) can significantly impact ground-motion estimates, depending on the location of the site relative to the slipping fault segments</u> [Emphasis Supplied]. Several critical LANL facilities are located between segments of the PFS, and so we explicitly considered both simultaneous and synchronous types of multisegment ruptures for both rupture models of the PFS.

241-2 cont'd

The LANL report by Lewis et al., 2009 presents new paleoseismic data from field studies that argue for three Holocene surface-rupturing earthquakes with two of the Holocene earthquakes as multiple surface ruptures. The pertinent excerpt follows:

> One [surface-rupturing earthquake] ca. 1.4 thousand calendar years ago (1.4 cal ka) on the Pajarito fault, a second 6.5–5.2 ka ago on the Pajarito fault that is consistent with an event 6.5–4.2 ka ago on the Guaje Mountain fault, and a third ca. 9 ka ago on both the Pajarito and the Rendija Canyon faults. This paleoseismic event chronology demonstrates that the Pajarito fault often ruptures alone, but sometimes ruptures either with the Rendija Canyon or the Guaje Mountain fault. When this occurs, the resultant seismic moment and therefore the earthquake magnitude are larger than when the main Pajarito fault ruptures alone (p. 252).

The LANL 2007 PSHA Report recognized the potential for the future surface-rupturing earthquakes to include an increase in simultaneous and synchronous ruptures of the PFS with either the RCF or the GMF as follows:

> However, the paleoseismic record also strongly supports coseismic rupture of the PAF and RC and the PAF and GM during the Holocene, which indicates to us that this linkage, however new, will likely continue in future earthquake ruptures (p. 5-12).

Comment by Gilkeson and Arends. *The LANL 2007 PSHA Report and the report by Lewis et al., 2009 describe the importance for accurate knowledge of the location and distance of active faults from the proposed CMRR-NF. The closest distance is not known because the necessary detailed field investigations have not been performed. The DOE 2011 draft SEIS does not consider 1). the conclusion in the LANL report by Lewis et al., 2009 that detailed field mapping is needed to determine the distance separating the GMF from the proposed CMRR-NF nor 2). the detailed mapping of intense fractures in the LANL Report by Wohletz, (2004) that indicate active faults are located 800 ft west, 1600 ft north and 2500 ft east of the proposed CMRR-NF.*

241-10 cont'd

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The LANL 2007 PSHA Report on page 5-17 describes the synchronous rupture Richter magnitude 7.2 Cedar Mountain, Nevada earthquake and the synchronous rupture Richter magnitude 7.3 – 7.5 Hebgen Lake earthquake in Montana as analogs to the PFS as follows:

> The MS 7.2 1932 Cedar Mountain earthquake included a **M** 6.8 subevent followed by a **M** 6.6 subevent, and it was likely a synchronous rupture. Another example of a synchronous rupture that is a possible analog for the PFS is the **M** 7.3 1959 Hebgen Lake earthquake, which involved multiple discrete faults and two subevents: a mb 6.3 event followed 5 seconds later by a mb 7.0 event (Doser, 1985). This is a good possible analog for the PFS because 1) it occurred in a region adjacent to a Quaternary caldera, as does the PFS; 2) it clearly involved multiple overlapping but distinct faults (rupture segments) with complex geometries, including opposing dips like the PFS; 3) it was dominantly extensional; and, 4) it had large displacements, as is suggested for the PFS. It should be noted however, that larger subevents do not always occur first and the subevents can be similar in size. Admittedly, our review here is not comprehensive. Nevertheless, the Hebgen Lake analog provides useful guidance in defining subevents for synchronous ruptures on the PFS [Emphasis Supplied].

241-2 cont'd

The LANL 2007 PSHA Report describes the much greater seismic hazard from synchronous ruptures than simultaneous ruptures on page 7-3 as follows:

> **7.2.2 Sensitivity to PFS Characterization. . .** The hazard at LANL is dominated by the PFS. To evaluate the sensitivity of the hazard to the selection of various source-characterization parameters, calculations were performed giving full weight to specific branches on the PFS logic tree. The hazard from synchronous versus simultaneous rupture (Section 5.1.1) is shown on Figure 7-53 [Figure 7-53 is on the next page]. The hazard is higher for synchronous rupture because the ground motions will be larger from seismic slip involving two subevents versus more uniform slip in a single albeit larger simultaneous event [Emphasis Supplied].

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Figure 7-53. Comparison of the larger seismic hazard from synchronous versus simultaneous surface-eruption earthquakes at the proposed CMRR-NF at LANL TA-55
Source. Figure 7-53 in LANL 2007 PSHA Report.

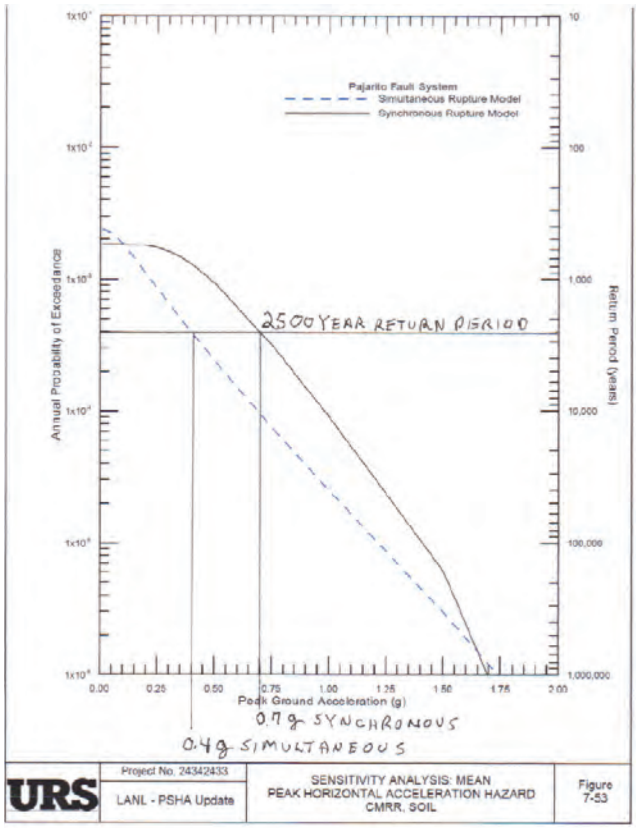

Figure 7-53 shows a much higher horizontal ground acceleration of 0.7g for synchronous ruptures of the PFS at the location of the proposed CMRR-NF compared to a lower value of 0.4g for simultaneous ruptures of the PFS.

241-2 cont'd

*Gilkeson and CCNS Comments about DOE 2011 draft SEIS for CMRR-NF * June 28, 2011 * Page 24*

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Figure 7-53 shows that the Mean Peak Horizontal Acceleration Seismic Hazard at the proposed CMRR-NF is 75% higher for the ground-surface ruptures from multiple synchronous earthquakes in the PFS for a return period of 2,500 years at 0.7g than for the simultaneous ruptures from a single earthquake for the same return period at a lower value of 0.4g.

A very serious issue is that Section 5 of the LANL 2007 PSHA Report calculated a smaller maximum Richter magnitude seismic hazard at the proposed CMRR-NF for the ruptures from multiple synchronous earthquakes than from the simultaneous ruptures from a single earthquake as follows:

> ***5.1.2.4 Maximum Magnitudes. . .*** We calculated preferred magnitudes for both simultaneous and synchronous ruptures. Weighted mean-maximum magnitudes range from **M** 6.94 (for RS-a) to **M** 7.27 (for ~~RS-g~~ ***sic*** RS-e) for simultaneous ruptures. . . We estimated maximum magnitudes for both subevents of the synchronous ruptures using the same approach and these are consistently slightly smaller than for the simultaneous ruptures (Table 5-11), but the sum of the moment for the two subevents is within 10% of the moment for the simultaneous rupture of the same rupture scenario.

Comment by Gilkeson and Arends. *The lower seismic hazard for simultaneous ruptures that was calculated in the LANL 2007 PSHA Report are incorrect and greatly underestimate the ground motions from multiple synchronous earthquakes at the proposed CMRR-NF as presented above in Table 7-53. The incorrect and low seismic hazard values in Section 5.1.2.4 for* ***Maximum Magnitudes*** *were used to underestimate by a large amount the seismic hazard at the proposed CMRR-NF.* ***The incorrect values for maximum magnitudes that were used to calculate the seismic hazard at the proposed CMRR-NF requires DOE to retract the DOE 2011 draft SEIS.***

The above statement in the LANL 2007 PSHA Report that the maximum moments for synchronous ruptures is less than but within 10% of the moment for the simultaneous ruptures misses the important fact that 1). the lower values calculated for the synchronous ruptures are ***proof*** *the calculations are incorrect and 2). a 10% change in Richter maximum moment is a large change in the seismic hazard because a 7.5 Richter magnitude earthquake is about 31 times more powerful than a 6.5 magnitude earthquake.*

The LANL 2007 PSHA Report described the multiple earthquake synchronous ruptures of the Richter maximum magnitude 7.5 1959 Hebgen Lake earthquake as an analog for synchronous ruptures of the PFS. However, the calculations in the LANL 2007 PSHA are not correct and underestimate the Maximum Magnitude for synchronous ruptures of the PFS for the proposed CMRR-NF and also for the existing or proposed critical facilities at other locations at the 40-square mile LANL Site. Indeed, the knowledge to calculate the seismic hazard at any existing or proposed LANL facility does not exist at the present time. The overall poor knowledge of the seismic hazard at LANL is described in our report with important discussion in the next section.

241-2 cont'd

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Issue 1.B. The DOE 2011 draft SEIS misrepresents the LANL 2007 PSHA Report as "a comprehensive update to the LANL seismic hazards analysis" as follows on page 3-25:

> **Section 3.5.1.4 Seismicity**
> A comprehensive update to the LANL seismic hazards analysis was completed in June 2007 (LANL 2007a). The updated report used more-recent field study data, most notably from the proposed CMRR-NF site, and the application of the most current seismic analysis methods, in order to update the seismic source model, ground motion attenuation relationships, dynamic properties of the subsurface (primarily the Bandelier Tuff) beneath LANL, as well as the probabilistic seismic hazard, horizontal and vertical hazards, and design-basis earthquake for LANL. The methods used in the updated 2007 analysis follow the Senior Seismic Hazard Advisory Committee's guidelines for a Level 2 analysis in the most recent guidance from NRC, "Recommendations for Probabilistic Seismic Hazard Analysis – Guidance on Uncertainty and Use of Experts" (NRC 1997).

Comment by Gilkeson and Arends. *Our report presents many reasons the LANL 2007 PSHA Report is incomplete, incorrect and inadequate to provide "design basis earthquakes" for the proposed CMRR-NF or for the assessment of the seismic hazard at the location of any existing or proposed critical facilities on the 40-square mile LANL Site. We describe the overuse of the Poisson Assumption in lieu of accurate data in the LANL 2007 PSHA Report above on page 21.*

241-3 cont'd

Seven key parameters for assessment of the seismic hazard at the location of the proposed CMRR-NF and at other critical facilities at the LANL site are described in the LANL 2007 PSHA Report. Five of the key parameters are listed on page 5-1 in the LANL 2007 PSHA as follows:

> Specific earthquake parameters needed for the seismic source characterization are 1] fault location, 2] geometry, 3] sense of slip, 4] Mmax [maximum moment], and 5] earthquake recurrence rate.

The other two key parametes described in the LANL 2007 PSHA Report are 6] Kappa and 7] seismic properties of the dacite reference rock.

241-8 cont'd

1] Fault Locations. The distance of the GMF away from the location of the proposed CMRR-NF is not accurately known. The disagreement between LANL scientists on the distance from the proposed CMRR-NF and the RCF and GMF is described in Issue 1C. on page 33. Calculation of the seismic hazard at the proposed CMRR-NF requires accurate knowledge of the location of the GMF and its extensions (i.e., fault splays). This knowledge does not exist at the present time.

The need for detailed field mapping to determine the southern extent of the GMF is described in the LANL report by Lewis et al., 2009:

> The southern extent and amount of displacement of the GMF are not well characterized (p. 257).
>
> **Conclusions. . .** The southern end of the GMF has not been mapped in detail, but its southern termination is likely to be similar to that of the Rendija Canyon fault (p. 268).

241-10 cont'd

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Figure 2 shows the numerous fault splays that are mapped at the southern end of the RCF. The above statement in Lewis et al., 2009 indicates that the LANL Seismic Hazards Geology Team have a concern that the GMF could extend south to a location close to the proposed CMRR-NF. Nevertheless, the necessary detailed field mapping for accurate knowledge of the southern extent of the GMF to determine proximity to the location of the proposed CMRR-NF has not been performed.

The LANL 2007 PSHA on page 5-17 describes the importance for accurate knowledge of fault locations to assess the seismic hazard at the proposed CMRR-NF:

> In our model of a simultaneous type of multisegment rupture for the PFS, ground motions are calculated the same as for a single segment source, with the closest distance to the source being a key factor [Emphasis Supplied].

The design of the proposed CMRR-NF was based on the locations of faults shown on Figure 2. Accordingly, the distance of the proposed CMRR-NF away from faults was described in the DOE 2011 draft SEIS as follows on page 3-25:

> Detailed geologic mapping in the vicinity of TA-55 indicates that the proposed CMRR-NF site lies approximately 3,000 feet (910 meters) to the east of the Rendija Canyon fault zone and 4,000 feet (1,200 meters) to the east of the Pajarito Fault (see Figure 3–4 [Figure 2 in this report]) and that no large faults exist at the site.

Comment by Gilkeson and Arends. *In fact, accurate knowledge of the distance from the proposed CMRR-NF to the active Guaje Mountain Fault (GMF) does not exist according to Lewis et al., 2009 and comparison of Figures 2 and 3 shows there is disagreement among the LANL scientists on the distance from the CMRR-NF to the active Rendija Canyon Fault (RCF) and to the GMF.*

Detailed mapping in trenches excavated at the proposed CMRR-NF has determined that no large faults are located at the top of the Bandelier Tuff in the foot print for the foundation of the NF. Nevertheless, the necessary detailed field mapping has not been performed to determine the distance from the proposed CMRR-NF to the GMF.

241-10 cont'd

The findings from the geologic mapping of fracture traces along Pajarito Road in 1990 (Vaniman and Wohletz, 1990) and in Mortandad Canyon north of the location of the proposed CMRR-NF (Wohletz, 2004) is that zones of intense fractures are located immediately west, 1600 ft north and 2500 ft east of the location of the proposed CMRR-NF, respectively. The importance of the intense zones of fracturing to the seismic hazard at the proposed CMRR-NF is an unresolved issue that requires field investigations.

241-17

2] Fault Geometry – Angle, Depth and Interaction. The components of fault geometry are the angle of dip of the discrete fault into the subsurface, the depth of the discrete fault into the subsurface and the stress interaction between the network of discrete faults. The LANL 2007 PSHA Report describes the lack of knowledge of the fault geometry as follows on page 5-12:

> Figure 5-7 shows views of our 3-D structural model for the PFS. These views were extracted from an interactive 3-D representation created by Claudia Lewis in Arcsine using digital elevation data to model the ground

241-5 cont'd

241-17 Numerous field investigations followed the work of Vaniman and Wohletz (1990) to investigate whether surface-rupturing faults related to the Rendija Canyon and Guaje Mountain faults extended into LANL property. These studies (including Gardner et al. 1998, 1999, 2008) used techniques of conventional geologic mapping at 1:1,200 scale, high-precision total station geologic mapping of Bandelier Tuff subunit contacts, and large-scale trenching investigations at the site of the proposed CMRR-NF, to identify the presence or absence of surface-rupturing faults at LANL, from TA-3 to TA-55. These careful field investigations to locate surface-rupturing faults overlap the fracture zones investigated by Vaniman and Wohletz (1990) and Wohletz (2004). Gardner et al. (1998, 1999) identified no faults or offsets along geologic contacts suggesting the presence of faults at TA-55. Although Gardner et al. (2008) did observe some fractures and small faults confined within units of the tuff, they concluded that fractures and faults exposed at the proposed CMRR site formed very shortly after emplacement of the tuff, 1.26 million years ago, as a result of cooling and compaction, and the structures identified at the proposed CMRR-NF site pose no independent seismic surface rupture hazard.

At TA-67 (south of TA-55), geologic mapping and paleoseismic trenching investigations for a proposed mixed waste disposal facility found small, complex faults at the site (Reneau et al. 1995). These faults were found to be older than 50 to 60 thousand years (the age of the El Cajete pumice fall), and the investigations found no correlation between increased fracture density and surficial faulting.

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> surface, digital fault traces to accurately represent complex geometries, and ***assumed fault dips*** [Emphasis Supplied] (which are within the ranges used in our seismic source characterization for the PFS, Figure 5-8). **It is noteworthy that the fault dips are the most poorly constrained part of the model due to the lack of subsurface structural data** [Emphasis Supplied].

The subsurface structural data on fault geometry requires field studies with 1). trenching investigations, 2). surface geophysical methods, including seismic reflection and aeromagnetics and 3). drilling coreholes. Nevertheless, the field investigations have not been performed. The LANL report (Lewis et al., 2009) by the LANL Seismic Hazards Geology Team recognized an important deficiency in the LANL 2007 PSHA Report is the lack of knowledge of the fault geometry for the PFS as follows on page 252:

> Despite the importance of understanding the geometry of the fault system and potential linkage among faults for purposes of seismic hazard analysis, a robust kinematic model of the [Pajarito] fault system is lacking.

Comment by Gilkeson and Arends. *The above statement that "a robust kinematic model of the [Pajarito] fault system (PFS) is lacking" describes an important deficiency in the current knowledge of the seismic hazard for the proposed CMRR-NF at LANL TA-55 and knowledge of the seismic hazard at other critical facilities at the 40-square mile LANL Site. A robust kinematic model requires accurate knowledge from field studies for the seven key parameters listed in the LANL 2007 PSHA report.. Nevertheless, the discussion in the LANL 2007 PSHA Report provided here in our report demonstrates that accurate knowledge of the key parameters does not exist.*

241-5 cont'd

3] Sense of Slip. A robust kinematic model for the PFS requires accurate knowledge of the geometry of the discrete faults and the sense of slip on the discrete faults. However, the required data have not been acquired as explained on page 5-11 in the 2007 PSHA Report:

> Very few kinematic data regarding fault-slip direction are available for the PFS. Slip directions measured on the RC and GM indicate dominantly normal slip with rakes that are typically between 80° and 90°, but occasionally range as low as 70° (Karen Carter, personal communication 1994, cited in Wong *et al*., 1995, Table 7-1, footnote 9). Unfortunately, slip direction data are lacking on the PAF [Pajarito Area Fault], but with its similar northerly strike one would expect slip directions similar to the RC and GM. In contrast, the SCC [Santa Clara Canyon Fault] strikes northeast and could have a larger component of oblique slip, although data are lacking to check this hypothesis.

The omission of accurate knowledge of the slip direction for the discrete faults in the PFS is a serious issue because "sense of slip" is a key parameter for assessment of the seismic hazard as described on page 5-1 in the LANL 2007 PSHA:

> Specific earthquake parameters needed for the seismic source characterization are fault location, geometry, ***sense of slip*** [emphasis supplied], Mmax [maximum moment], and earthquake recurrence rate. Uncertainties in these seismic source parameters are sometimes large and include (1) those arising from lack of knowledge (epistemic uncertainties) and (2) those due to inherent variability in the earthquake process (aleatory uncertainties). The second type

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> of uncertainty was handled by integration in the hazard calculations (Section 2); the first [i.e., lack of knowledge], by use of a logic-tree approach. In the latter procedure, values of the source parameters are represented by the branches of logic trees with weights that define the distribution of [assumed] values.

Comment by Gilkeson and Arends. *The primary fault along the western boundary of LANL is the Pajarito Area Fault (PAF) [also named the Pajarito Fault (PF)]. The use of the logic tree approach to determine the important source parameters such as "sense of slip" for the primary PAF instead of the necessary field work to acquire accurate knowledge is an important reason for DOE to retract the DOE draft 2011 SEIS for the proposed CMRR-NF at LANL TA-55. The importance of accurate knowledge for the "sense of slip" on the primary PAF for the seismic hazard at LANL is described on page 5-15 in the LANL 2007 PSHA as follows:*

> On the basis of the structural and paleoseismic data, all of the rupture scenarios assumed that the PAF is the primary fault segment and always ruptures in larger surface-faulting events. In addition, we also assumed that if the PAF ruptures with the SCC [Santa Clara Canyon Fault], then either the RC, or GM, or both, must also rupture to transfer the strain between the PAF and SCC. As a result of these assumptions, our scenarios all have only one rupture source that always includes the PAF.

Accurate knowledge of the seismic hazard at LANL requires accurate knowledge of the "sense of slip" for the PAF and the difference in the "sense of slip" between the primary PAF and the subsidiary RCF and GMF. However, footnote 7 in Table 5-10 in the LANL 2007 PSHA Report shows that "sense of slip" for the PAF were average values determined from the RCF and GMF displacement probabilities as follows:

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> Footnote 7. As data are lacking on the EFS/SW [Embudo Fault System/South-West], SCC and PAF, displacements for RS-e [Simultaneous Rupture Model Event e] are based on displacement data from the Guaje Pines Cemetery site along the RC and sites along the GM. In this case, all values were considered averages and weights were determined by averaging the RC and GM displacement probabilities.

The methodology used in the LANL 2007 PSHA to calculate the key parameter "sense of slip" for the important primary PAF is not technically defensible and shows that the LANL 2007 PSHA Report did not acquire the site-specific data necessary for subsequent analyses. As a result, assumptions and averaging are used for the displacement data for the ground motions for design basis earthquakes at the proposed CMRR-NF, which are not based on accurate scientific knowledge. These are examples of why DOE must retract the DOE 2011 draft SEIS.

The important differences in the physical setting of the very deep primary PAF and the shallow depth for the antithetic RCF and GMF are described on page 265 in Lewis et al., 2009 as follows:

> The short lengths and antithetic dips of the RCF and GMF, and their location in the step over between the PF and the northern PF, suggest that they are subsidiary to the larger displacement east-dipping faults. The paleoseismic data corroborate this. . . As the principal bounding faults of the Española basin, the PF and northern PF are probably crustal-scale faults (dipping at high angle down to the base of the brittle crust;

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Baldridge et al., 1995), whereas the RCF and GMF are subsidiary but important, in that they bridge the gap, in the subsurface at least, between the main and northern strands of the Pajarito fault.

Fault interaction has significant implications for seismic hazards. The probability of an earthquake rupture propagating from one fault to another increases with the degree of stress interaction between the faults [Emphasis Supplied] (Scholz and Gupta, 2000). When the PF and the RCF rupture together, the seismic moment and therefore the magnitude should be substantially larger than when the PF ruptures alone.

Comment by Gilkeson and Arends. *The required knowledge of the stress interactions between the primary PAF and the subsidiary RCF and GMF does not exist because the necessary displacement data is lacking for the PAF and also for the SCC [Santa Clara Canyon Fault]. The important knowledge of the degree of stress interaction between the primary PAF and the subsidiary RCF and GMF and the SCC was not provided in the LANL 2007 PSHA Report because the field work to measure the degree of stress interaction has not been performed. The "expert judgment" that was used in the LANL 2007 PSHA Report to assess the stress interactions between the PAF and the subsidiary faults is obviously incorrect because the displacement data for the primary PAF were estimated from the median values for the displacement data from the subsidiary RCF and GMF.*

241-5 cont'd

4] Mmax [maximum moment] ***Seismic moment is a measure of the energy released in an earthquake determined by length of the fault and the area and amount of slip. The Richter earthquake magnitude scale is a presentation of seismic moment.*** The design of the proposed CMRR-NF was incorrectly based on earthquakes with a maximum moment magnitude for simultaneous ruptures from a single earthquake in the Richter range of 6.94 to 7.27 (see Table 5-10 in the LANL 2007 PSHA Report). Issue 1A. in this report describes the incorrect calculation of anomalously low maximum moments from ground-surface ruptures produced from multiple synchronous earthquakes.

Comment from Gilkeson and Arends. *The LANL 2007 PSHA Report recognizes the synchronous 1959 Hebgen Lake Earthquake as an analog to the PFS (see discussion above on page 23). The maximum earthquake in the synchronous pair of eruptions for the 1959 Hebgen Lake Earthquake was a Richter magnitude of 7.5. A 7.5 Richter magnitude earthquake is 31 times more powerful than a 6.5 magnitude earthquake (See USGS material above on page 17). Accordingly, it is important to use a higher maximum moment than 7.27 to calculate the seismic hazard for the proposed CMRR-NF because of the 7.5 Richter magnitude of the analog 1959 Hebgen Lake Earthquake and the obviously incorrect low values calculated for maximum moment from synchronous earthquakes in the LANL 2007 PSHA Report. Another concern is the increasing power of the PFS that may occur during the 50-year operational life of the CMRR-NF and the operational life of other critical facilities at LANL into the future. An additional important issue is that there is no technical basis for the values for maximum moment magnitude that are presented in Table 5-10 in the LANL 2007 PSHA Report. This issue is discussed beginning on page 22 in this report.*

241-15 cont'd

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5] Earthquake Recurrence Rate. The LANL 2007 PSHA Report recognized that there was insufficient knowledge of the earthquake recurrence rate and more field work with paleoseismic investigations were needed as follows:

> The PFS shows compelling evidence for repeated late Quaternary faulting, but individual rupture patterns are complex and the timing of some events remains ambiguous (e.g., Gardner et al., in review; McCalpin, 2005) (p.5-8).
>
> If the late Quaternary record is indeed incomplete, as we believe, then future paleoseismic investigations will, if anything, increase the number of surface-faulting events identified on the PFS. We have tried to consider the potentially incomplete record in developing and weighting rupture models and recurrence interval distributions for the PFS (p.5-15).

6] Insufficient knowledge or the key parameter kappa. The parameter kappa is important for site specific ground motions from earthquakes. The LANL 2007 PSHA Report recognized the need for improvements in the LANL seismograph network to improve measurement of kappa (see page 39 in this report). The 2007 PSHA used an assumed value of kappa because the LANL seismograph network did not provide usable data to calculate kappa.

7] Insufficient knowledge of the seismic properties of the reference rock dacite. The LANL 2007 PSHA Report used an assumed value for the shear velocity of the dacite below the proposed CMRR-NF because of the very low value that was measured in the only borehole that was drilled a short distance into the dacite. This issue is discussed on pages 36-37 in this report. The LANL 2007 PSHA Report recommended for LANL to do additional field work to measure the shear velocity of the dacite (see page 39).

Comment by Gilkeson and Arends. *In summary, the field investigations have not been performed to provide the necessary accurate knowledge of the seven key parameters that are essential to calculate the seismic hazard and design basis earthquakes for the proposed CMRR-NF at LANL TA-55. The omission of the required knowledge of the seven key parameters is a requirement of DOE to retract the DOE 2011 draft SEIS.*

241-8 cont'd

The necessary detailed field investigations have not been performed over large regions of the PFS. A major omission in the LANL 2007 PSHA Report is that there are large regions where there is poor knowledge of fault locations and fault geometry because the required detailed field investigations have not been performed. As described earlier on page 26 the LANL Seismic Hazards Geology Team recommend detailed field investigations to determine the distance from the GMF to the proposed CMRR-NF.

The LANL 2007 PSHA Report describes additional important data gaps north of LANL where there is a need for high precision mapping for a robust kinematic model of the PFS as follows:

> One key insight is that, although the PAF and SCC segments form the main western margin of the Espanola basin, there appears to be a large gap (about 5 km) between presently mapped traces of each segment

241-5 cont'd

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> (Figure 5-4). This gap is coincident with a major change in strike of the PFS from northerly to northeasterly. Additional high-precision mapping should be done at the southern end of the SCC to confirm this gap (p. 5-10).
>
> More displacement data and more detailed mapping are sorely needed to better define deformation patterns on the SCC, but landowner access restrictions have hampered study of the SCC to date (p. 5-11).

In addition, the DOE 2011 draft SEIS describes on page 3-22 that large areas of LANL have not yet been mapped in detail for seismic hazards as follows:

> Although project areas TA-3 and TA-55 have been mapped in detail for the presence of faults, areas showing no faulting on Figure 3–5 do not necessarily represent an absence or lack of faulting. Large eastern and southern areas of LANL have not yet been mapped in detail for seismic hazards. Additionally, faults are only shown in areas where such faults are exposed or inferred. The end of a fault line on a map does not necessarily indicate truncation of a fault, but may be indicative of the end of surface exposure or lack of evidence of a fault at that location. This scenario is common in urbanized areas or in areas where faults have been buried by younger sediments. Confirmation of the presence or absence of a fault at a particular site, that is, at the end of mapped fault lines, may require further site-specific detailed geologic investigations, even though mapping may already have occurred at that location.

Comment by Gilkeson and Arends. *The seismic hazard at the proposed CMRR-NF requires knowledge from a robust kinematic model for the PFS from accurate data in the immediate vicinity of the proposed CMRR-NF, in the region of the 40-square mile LANL SITE on Figure 2 and in the region of the PFS on Figure 1. The detailed field investigations for the required kinematic model of the PFS have not been performed.*

241-4 cont'd

Contradictory values for the vertical peak ground acceleration values in the LANL 2007 PSHA Report and the DOE 2011 draft SEIS. Our review of the LANL 2007 PSHA Report discovered that the DOE 2011 draft SEIS used a value for the vertical PGA of 0.3g for the recurrence interval of 2500 years when the value listed in the table in the LANL 2007 PSHA Report was 100% greater at 0.6g. From the LANL 2007 PSHA Report Table ES-1:

Table ES-1
LANL Mean PGA Values (g) From the UHRS

Return Period (years)	CMRR		TA-3		TA-16		TA-55		Site-Wide		Dacite	
	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.	Horiz.	Vert.
1,000	0.27	0.32	0.27	0.32	0.25	0.31	0.27	0.32	0.27	0.32	0.13	0.12
2,500	0.52	0.60	0.52	0.59	0.47	0.57	0.52	0.60	0.52	0.60	0.27	0.27
10,000	1.03	1.21	1.03	1.10	0.93	1.05	1.03	1.21	1.03	1.21	0.65	0.65
25,000	1.47	1.79	1.45	1.57	1.33	1.50	1.47	1.79	1.47	1.79	1.01	0.97
100,000	2.30	3.01	2.29	2.79	2.11	2.57	2.30	3.01	2.30	3.01	1.69	1.65

241-7 cont'd

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However, the text of the DOE 2011 draft SEIS shows that the design of the proposed CMRR-NF at LANL TA-55 was based on the incorrect low value of 0.3g for the vertical PGA. The pertinent excerpt from pages 3-25 to 3-26 in the DOE 2011 draft SEIS follows:

> Probabilistic seismic hazard was calculated for the ground surface at the existing CMR site within TA-3 and the proposed CMRR-NF project site within TA-55. Anticipated horizontal surface peak ground acceleration values at both sites as a result of a large earthquake on the Pajarito Fault are about 0.52 *g* (percent of acceleration equal to gravity) at a return period of 2,500 years. <u>The vertical peak ground acceleration values are about 0.3 *g*, also at a return period of 2,500 years (LANL 2007a)</u> [Emphasis Supplied]. **Note.** LANL 2007a is the LANL 2007 Probabilistic Seismic Hazard Analysis (PSHA) Report.

The vertical PGA value in the LANL 2007 PSHA Report to be used for the design of the proposed CMRR-NF at TA-55 was 0.6g which is 100% larger than the low value of 0.3g that was incorrectly used for the design according to the above statement in the DOE draft 2011 SEIS. The use of an incorrect value for the vertical PGA to calculate design basis earthquakes for the proposed CMRR-NF requires DOE to retract the DOE 2011 draft SEIS.

241-7 cont'd

- **Issue 1.B. The insufficient knowledge of active faults located close to the proposed CMRR-NF.** The DOE 2011 draft SEIS misrepresents the omission of detailed field mapping north of TA-55 for knowledge of the locations of faults close to the location of the proposed CMRR-NF in LANL TA-55. From page 3-22 in the DOE 2011 draft SEIS:

> The Pajarito fault system has been mapped in detail in the northern and western portions of LANL property, as well as in the vicinity of LANL (see Figure 3-5 [Note. Figure 3-5 is Figure 2 in this report]). This detailed fault data includes fault mapping from a variety of projects that were performed using different methods, that is, conventional geologic mapping, surveying, drilling, and trenching; at different scales, ranging from 1:1,200 to 1:62,500; and at different times, from 1987 to 2004. Portions of the data include currently unpublished mapping performed by the LANL Seismic Hazards Geology Team. The fault mapping includes faults and related structures, such as folds, fissures, and fault zones.

In fact, detailed fault mapping data does not exist over a large region north of the location of the proposed CMRR-NF at LANL TA-55 to the southern boundary of the GMF displayed on Figures 1 and 2. The lack of detailed mapping is described as follows in Lewis et al., 2009:

> The southern extent and amount of displacement of the GMF are not well characterized (p. 257).
>
> **Conclusions. . .** The southern end of the GMF has not been mapped in detail, but its southern termination is likely to be similar to that of the Rendija Canyon fault (p. 268).

Figure 2 shows the numerous fault splays that are mapped at the southern end of the RCF. The above statement in Lewis et al., 2009 shows that the LANL Seismic Hazards

241-10 cont'd

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Geology Team have a concern that the GMF could extend south to a location close to the proposed CMRR-NF. The intense fractures mapped north of the proposed CMRR-NF in Mortandad Canyon and west of the NF on Figure 3 (Wohletz, 2004) may be caused by faults that are buried in the Bandelier Tuff that are now propagating up through the Bandelier Tuff (see discussion on page 37 in this report}. Nevertheless, the necessary detailed field mapping for accurate knowledge of the southern extent of the GMF to determine proximity to the location of the proposed CMRR-NF has not been performed.

***Comment by Gilkeson and Arends**. The field studies in the area of the proposed CMRR-NF at TA-55 and especially to the north of the NF to determine the southward extension of the GMF have not been performed. The required field studies should be performed with the results reviewed by an independent team of experts. In addition all of the published and unpublished mapping performed by the LANL Seismic Hazards Geology Team should be reviewed by an independent expert team and made available to all reviewers of the DOE 2011 draft SEIS. For these reasons and others detailed in this report, therefore, DOE is required to retract the 2011 draft SEIS.*

- **Issue 1.C.** The 2011 draft SEIS does not provide the evidence from the field mapping of fractures along Pajarito Road (Vaniman and Wohletz, 1990) and in Mortandad Canyon (Wohletz, 2004) that indicate an active fault is located within 800 ft of the western side of the proposed CMRR-NF (shown as the RCF on Figure 3) and the active GMF is located approximately 2,500 feet east of the eastern side of the proposed CMRR-NF.

An important fact is the misrepresentation in the DOE 2011 draft SEIS that detailed field mapping has determined that there are no faults located close to the proposed CMRR-NF. The mapping of zones of intense fractures (Vaniman and Wohletz, 2000 and Wohletz 2004) and the statement above on page 33 from Lewis et al., 2009 shows that the necessary detailed field investigation for accurate knowledge of active faults west, north and east of the proposed CMRR-NF have not been performed. A very serious omission in both the LANL 2007 PSHA and the DOE 2011 draft SEIS is the need for detailed field investigations to provide accurate knowledge of active faults in the immediate vicinity of the proposed CMRR-NF. The LANL Seismic Hazards Geology Team (Lewis et al., 2009) have recommended detailed field mapping to determine the location of the GMF north of the proposed CMRR-NF.

The incorrect statement on page 3-25 in the DOE 2011 draft SEIS that there is no evidence of faults at or near the location of the proposed NF is as follows:

> In contrast to TA-3, TA-55 is located within an area of relatively simple structure, where no surficial fault deformation has been documented (see Figures 3–4 and 3–5 [Figures 1 and 2 in this report]). Detailed geologic mapping in the vicinity of TA-55 indicates that the proposed CMRR-NF site lies approximately 3,000 feet (910 meters) to the east of the Rendija Canyon fault zone and 4,000 feet (1,200 meters) to the east of the Pajarito Fault (see Figure 3–4 [Figure 2 in this report]) and that no large faults exist at the site. Local faults observed in an excavation at the CMRR-NF site originated from fumarolic activity and were created during cooling and compaction of the volcanic tuff, rather than as a result of movement along the Pajarito fault system.

241-10 cont'd

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Comment by Gilkeson and Arends. *The above statement that there is no evidence of the PFS close to the location for the proposed CMRR-NF at LANL TA-55 is incorrect based on the results of 1). field mapping of fractures along Pajarito Road, 2). field mapping of fractures in Mortandad Canyon north of TA-55 and 3). field mapping of fractures in the trenches at the proposed location of the CMRR-NF at LANL TA-55. The findings from the field investigations are described in the May 25, 2007 Geotechnical Report by Kleinfelder that is referenced in the DOE 2011 draft SEIS. The pertinent excerpts from the 2007 Kleinfelder Geotechnical Report (LANL Report LA-UR-10-08118) follow.* From page 42 in the 2007 Kleinfelder Geotechnical Report

> Recent fracture mapping by LANL (Wohletz, 2004) in the north wall of Mortandad Canyon north of the CMRR site documented fracture clusters that were interpreted as southward extensions of the RCF and GMF, passing south-southwest along the west boundary of TA-55 and through TA-63 to the west and east of CMRR, respectively [Note. The locations of the RCF and GMF east and west of the proposed CMRR NF are shown on Figure 3]. This interpretation is consistent with studies by Vaniman and Wohletz, 1990, which found fracture clusters in Unit 3/Unit 4 along the TA-48/TA-55 boundary north and south of Pajarito Road. From these studies, <u>it appears that the structural disturbance manifested as dense fracturing, lying 800-1000 ft west of the west edge of CMRR, is the southern extension of the RCF zone with net vertical displacement (down drop to the east) of 11.3 meters (m) (37 ft)</u> [Emphasis Supplied].

Comment by Gilkeson and Arends. Detailed field mapping described in Lavine et al. (2005) determined that faults were not present in the zone of intense zone of fracturing 800-1000 ft west of the proposed CMRR-NF. Detailed field mapping in the zone of intense fracturing north of the proposed CMRR-NF in Mortandad Canyon also did not identify any faults but it is possible that small-vertical-displacement faults [<1 ft (30 cm) vertical displacement] may not have been recognized.

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From page 42-43 in the 2007 Kleinfelder Geotechnical Report:

> Mapping of fractures (Wohletz, 2004) in Unit 3 in Mortandad Canyon north and northeast of TA-55 documented two dominant, conjugate fracture sets with 1) mean strikes of N22W with steep dips to the south and 2) mean strikes of N82E with dips to mostly north and dips not as steep. The N82E set is the more prominent of the two. This conjugate fracture orientation suggests a principal horizontal stress in the N15E direction. A minor set striking N50W was also documented.

From page 43 in the 2007 Kleinfelder Geotechnical Report:

> As part of its site investigations, KA excavated test trenches within the CMRR site. Most of the trenches were excavated into fill or Qbt4; two were excavated into $Qbt3_U$. Fractures mapped in test trenches are plotted on Figures B-2 through B-7 in Appendix B of the GDR [Kleinfelder 2007 Geotechnical Data Report]. These figures show some clustering of very steep (81-90°) fractures dipping toward the northeast (Set A) and some lesser clustering of 71-80° fractures toward the northwest (Set B). Otherwise, fracture directions appear to be randomly distributed. These two sets do not match up with the conjugate clusters mapped by Wohletz, but

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> some of the other, apparently random fractures mapped in the CMRR studies could belong to the clusters identified by Wohletz [as evidence of faulting] [Emphasis Supplied].

Comment by Gilkeson and Arends. *The inclusion of the findings in the 2004 LANL report by Wohletz in the Kleinfelder 2007 Geotechnical Report but omitted in the DOE 2011 draft SEIS is a serious issue. The DOE 2011 draft SEIS did not mention the random fractures mapped in the CMRR-NF studies that were possibly from the PFS. Instead, the draft SEIS described the trenching studies at the CMRR-NF as follows on page 3-25:*

> Local faults observed in an excavation at the CMRR-NF site originated from fumarolic activity and were created during cooling and compaction of the volcanic tuff, rather than as a result of movement along the Pajarito fault system.

The findings of 1). a principal horizontal stress in the geologic setting north of the CMRR-NF, 2). zones of intense fractures possibly related to the PFS in outcrops along Pajarito Road south and west of TA-55, 3). zones of intense fractures possibly related to the PFS in Mortandad Canyon north and northeast of the CMRR-NF and 4). fractures possibly from the PFS in the trenching studies at the location of the CMRR-NF are all an indication that active faults may be close to the location for the proposed CMRR-NF.

241-10 cont'd

The misrepresentation in the DOE 2011 draft SEIS that detailed mapping determined there to be no active faults close to the location of the proposed CMRR-NF is a serious issue. There is an immediate need to do the detailed field mapping and drilling investigations in the large 2 ½ mile region on Figure 2 between the mapped southern end of the GMF and the location of the proposed CMRR-NF.

Detailed mapping for faults in trenches in the footprint of the proposed CMRR-NF is not sufficient to identify active faults at depth in the Bandelier Tuff. The Bandelier Tuff Tshirege Member was deposited 1.25 million years ago over a landscape where active faults in the PFS date from 16.5 million years ago. The mapping in trenches cut into the top of the Tshirege Member of the Bandelier Tuff is not sufficient to determine that active faults are not present in the subsurface close to and possibly below the location of the proposed CMRR-NF. One requirement is to investigate faulting in the dacite below the CMRR-NF and the propagation of faults upward from the dacite through the Bandelier Tuff The extensive fracturing that was discovered in the only borehole drilled into the dacite below the CMRR-NF is an indication that active faults may be present in the dacite below the location of the proposed CMRR-NF.

Borehole DSC-1B was the only borehole drilled into the dacite below the location of the proposed CMRR-NF. The Kleinfelder 2007 Geotechnical Report describes the dacite in borehole DSC-1B as follows:

> The basement rock of this site was encountered in boring DSC-1B at a depth of about 697.5 ft (El 6597.5) and consists of Tschicoma dacitic lava (dacite). At least three distinct flows were identified in the 43.5 ft of basement rock penetrated at the bottom of boring DSC-1B, but the total thickness is probably several hundred feet. The upper boundary is heavily fractured and vesicular, which reduces the overall rock mass stiffness.

241-14 cont'd

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The Kleinfelder 2007 Geotechnical Report describes the video log in borehole DSC-1B as follows:

> Through the dacite the borehole wall was very blocky and irregular, retaining a cylindrical shape in only a few locations to 733 ft, where slough had backfilled the hole. The over break through the dacite appeared to be at least one borehole diameter beyond the borehole wall.

The low shear velocity (Vs) of 2,950 ft/sec measured in the upper 25 ft of dacite in borehole DSC-1B is also evidence the dacite below the proposed CMRR-NF is highly fractured possibly because of faulting.

The LANL report by Lewis et al., 2009 described locations where the active PF is buried below land surface. One example is the description of the Anchor Ranch Fault, which is part of the active portion of the PF, on pages 261 and 264 as follows:

> Maximum throw of 55 m down to the east occurs on the Anchor Ranch fault (the largely buried main fault in this sector) [Emphasis Supplied], but associated deformation extends into the footwall block 2000 m to the west of the Anchor Ranch fault and into the hanging-wall block 2000 m to the east (p. 261).
>
> As the Anchor Ranch fault propagated upward, breaking the surface between Water and Los Alamos Canyons, growth of the fold presumably ceased (p. 264).

Another example of the buried PF is on page 267 in Lewis et al., 2009:

> In the 1981 Gulf of Corinth [central Greece] earthquake series, warping of the surface between two normal faults resulted in strike-parallel extension and discontinuous surface fissures between the two main surface ruptures (e.g., Jackson, 1982; Vita-Finzi and King, 1985). As is the case with the PF and northern PF, the main Corinth fault failed to reach the surface across the bend, even though it may be a continuous structure in the subsurface [Emphasis Supplied].

The conceptual model of the LANL Seismic Hazards Geology Team is that the youthful PFS is continuing to propogate upward through the Bandelier Tuff to the present time as follows on page 265:

> Based on its probable interaction with the RCF and GMF, the PF may no longer propagate northward, although it may continue to propagate upward through the Bandelier Tuff. Rather, the PF, RCF and GMF are slowly accumulating displacement in the zone of overlap between the faults, and thus gradually filling in the local displacement deficit relative to the system as a whole (Fig. 5). This is a fault system of short segments that have just recently linked together; the near-surface displacement asymmetries have not yet evened out.

241-14 cont'd

Comment by Gilkeson and Arends. The DOE does not have accurate knowledge of the seismic hazard at the location for the proposed CMRR-NF

241-18

241-18 Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazards analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). The updated seismic hazard analyses (LANL 2007, 2009) provide a better understanding of the ground motion and seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF building site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. The revised design is reflected in the revised cost estimates. Per DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, final or detailed design cannot be started until the NEPA document (Final SEIS in this case) has been completed, so as not to prejudice the outcome, or restrict or narrow the range of alternatives to be considered.

Site specific geotechnical investigations have been completed for the proposed CMRR-NF project site for both the Shallow Excavation Option and the Deep Excavation Option and recommendations issued related to the design of the CMRR-NF (Kleinfelder 2007a, 2007b, 2010a, 2010b). Such recommendations take into consideration potential sinking, including seismically induced and non-seismically induced settlement, and lateral shifting of the foundation. The *CMRR-NF SEIS* has been revised to include this information. Refer to Section 2.6, Seismic Concerns, of this CRD for more information.

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at LANL TA-55. The DOE 2011 draft SEIS increases the estimated cost for construction of the proposed CMRR-NF because of 1). the new knowledge about the weak layer of volcanic ash below TA-55 and 2). the large increase in the horizontal Peak Ground Acceleration (PGA) in the LANL 2007 PSHA Report. Because of these factors, the estimated cost of the proposed CMRR-NF has increased 20 times from $350 million to greater than $6 billion. The DOE 2011 draft SEIS does not provide a final estimated cost because there are two options for the design of the CMRR-NF and the final design and final estimated cost was not provided at the time the DOE 2011 draft SEIS was issued for public comment. From pages 2-14 and 2-15 of the DOE 2011 draft SEIS:

> Two options are being considered for construction of the Modified CMRR-NF. The Deep Excavation Option would involve excavating through a layer of poorly welded tuff, then partially backfilling the excavation with a low-slump concrete. The 10-foot-thick (3-meter-thick) concrete basemat on which the building foundation would rest would be constructed on top of the concrete backfill. The Shallow Excavation Option would avoid the poorly welded tuff layer by constructing the basemat well above that layer in the overlying stable geologic layer, which would act in a raft-like fashion to allow the building to "float" over the poorly welded tuff layer.
>
> The Deep Excavation Option design is more mature, having undergone technical review by NNSA, NNSA's contractors, and the Defense Nuclear Facilities Safety Board. At this time there is more uncertainty with the design for the Shallow Construction Option. The Shallow Construction Option design needs to reach the same level of design maturity and be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis; this process is currently ongoing.

241-18 cont'd

Comment by Gilkeson and Arends. *The DOE 2011 draft SEIS misrepresented and underestimated the seismic hazard at the location of the proposed CMRR-NF 1). because of the incorrect calculations in the LANL 2007 PSHA Report, 2). the inadequate and incomplete collection of data for the seven key parameters listed in Section 1.B, and 3). the insufficient knowledge of the location of active faults close to the proposed CMRR-NF and the lack of a robust kinematic model for the PFS. The required knowledge of the seismic hazard does not exist. However, the current knowledge of the seismic hazard is adequate for the decision that the shallow option "which would act in a raft-like fashion to allow the building to 'float' over the poorly welded tuff layer" is not a safe design.*

241-8 cont'd

In addition, the current knowledge of the poorly characterized seismic hazard is adequate for the decision that the LANL site is not acceptable for major operations in the DOE Program for modernization of nuclear weapons, for storage of six metric tons (13,228 pounds) of plutonium or for ongoing operations at the LANL site with special nuclear materials.

241-19

Section 10 in the LANL 2007 PSHA Report provides six recommendations for future studies to improve knowledge about the seismic risk. Section 10 is provided below with our Questions LANL 2007 PSHA A through LANL 2007 PSHA F about the current status of the studies. Please provide answers to our specific Questions LANL 2007 PSHA A

241-20

241-19 NNSA does not agree with the commentors conclusion about the safety of facilities at LANL that handle special nuclear materials. NNSA believes that sufficient geologic and seismic information is available to enable NNSA to design a CMRR-NF that can be safely operated. See the 2008 *LANL SWEIS* for more information on the operation of other facilities at LANL.

241-20 NNSA has considered the recommendations made in the 2007 PSHA and is addressing the recommendations in a prioritized manner, as resources are available. For example, NNSA has incorporated the Next Generation of Attenuation relationships in the seismic hazard for the CMRR-NF and TA-55, as documented in the 2009 update to the PSHA.

The goal of any PSHA is to develop inputs that represent the composite distribution of the informed technical community. SSHAC recognizes that PSHA inputs can be subject to considerable uncertainties due to incomplete data and scientific understanding, as well as from process variability. In particular, when developing the inputs for PSHA, it is recognized that there is always incomplete knowledge because that is the nature of trying to characterize a complex natural process. However, by performing PSHAs in a manner consistent with the SSHAC guidelines, particularly with regards to the incorporation of the range of different interpretations and scientific uncertainties, the results should be robust and stable. NNSA believes that sufficient geologic and seismic information is available to enable NNSA to design a CMRR-NF that can be safely operated.

Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

through LANL 2007 PSHA F in your Response to Comments for the DOE 2011 draft SEIS for the CMRR-NF about the progress to implement the six recommendations.

SECTION TEN Recommendations for Future Studies
Based on the studies completed to date, the following are recommendations for future investigations. The results of such studies will aid in refining specific seismic source and site parameters, which have been incorporated into the PSHA, and reduce their associated uncertainties.

- Recalculate the hazard using the NGA [Next Generation of Attenuation] ground motion attenuation relationships. Four relationships are now available for use and they display significant differences with the earlier generation of relationships, i.e., the ones used in the current study (Section 6.1). It would be prudent to evaluate the impact of these new relationships on the LANL hazard after they have had time to be fully vetted.

- *LANL 2007 PSHA A. What is the status on vetting the new NGA ground motion attenuation relationships?*

- Conduct additional detailed/high-precision mapping and displacement measurements along the SCC [Santa Clara Canyon] segment of the PFS [Pajarito Fault System], similar to what has been done on the PAF [Pajarito Area Fault] segment of the PFS. The purpose of this would be threefold: (1) better define fault trace geometry for the SCC and verify the gap between the PAF and SCC; (2) better define long-term displacements and slip rates for the SCC; and (3) identify potential paleoseismic trenching sites.

- *LANL 2007 PSHA B. What is the status of the performance of additional detailed high precision mapping and displacement measurements along the Santa Clara Canyon and the Pajarito Area Fault segment of the Pajarito Fault System?*

- Conduct paleoseismic trenching studies of the SCC to determine the timing and size of prehistoric surface-faulting earthquakes. This will help better define rupture models and scenarios for the PFS. It may also help better determine maximum magnitudes and recurrence intervals for rupture scenarios.

- *LANL 2007 PSHA C. What is the status of the performance of new paleoseismic trenching studies of the Santa Clara Canyon and also new paleoseismic trenching studies of the Pajarito Area Fault segment of the Pajarito Fault System?*

- Reevaluate the entire dataset for the RGR [Rio Grande Rift] fault slip rate analysis using only data for complete seismic cycles and more complete documentation of long-term data (both displacements and applicable time periods). This more robust analysis will likely reduce slip rate uncertainties and result in a more symmetric RGR slip rate distribution.

- *LANL 2007 PSHA D. What is the status of the reevaluation of the entire dataset for the Rio Grande Rift?*

- Conduct additional studies to better constrain kappa. Kappa is a key parameter in assessing the hazard at LANL (Section 6.2). Focused efforts should be made to evaluate kappa using data from the LANL seismographic network. Improvements in the network may be necessary to improve data quality [emphasis added].

- *LANL 2007 PSHA E. The 1995 Seismic Hazard Report described the failure of LANL to install and operate a seismographic network to provide data for the calculation of*

241-20 cont'd

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Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

Kappa. The poor performance of LANL to install and operate the required seismographic network was also the finding of the 2007 PSHA Report. The 2007 PSHA Report and the DOE 2011 draft SEIS used an uncertain assumed value for Kappa. What is the current status for the LANL seismographic network to provide high quality data for the calculation of Kappa?

- Conduct VS measurements of dacite. There is no reliable VS data for the dacite (Section 4.2.3) and thus velocity data would confirm the value used in this study. Measuring the velocity of the dacite beneath the laboratory requires deep boreholes and so although not ideal, shallow velocity surveys where the rock outcrops is probably the only economical alternative.

- *LANL 2007 PSHA F. What is the status of LANL/DOE operations to measure the shear velocity of the "reference rock datum" in testholes at many locations site-wide and specifically at the location of the new CMRR Building? The complex change in the "reference rock datum" at LANL requires shear velocity measurements in many testholes drilled deep into the reference rock.*

241-20 cont'd

Below are Questions DOE 2011 draft SEIS A through DOE 2011 draft SEIS U based on our findings in this report. Again, please provide answers to our specific Questions DOE 2011 draft SEIS A through DOE 2011 draft SEIS U in your Response to Comments for the DOE 2011 draft SEIS for the CMRR-NF.

<u>There is insufficient acquisition of site-specific data and subsequent analysis of seven key parameters to ensure that ground motions for design-basis earthquakes at the proposed CMRR-NF are based on accurate scientific knowledge</u>. The seven key parameters required for seismic source characterization were identified in the LANL 2007 PSHA report. They are 1] fault location, 2] geometry, 3] sense of slip, 4] Mmax [maximum moment], 5] earthquake recurrence rate, 6] kappa, and 7] shear velocity of the dacite.

241-8 cont'd

1] Fault Locations. There is a need for detailed field mapping to determine the location relationship between the GMF and the proposed CMRR-NF. The concern of the LANL Seismic Hazards Geology Team follows as described in Lewis et al., (2009):

> The southern extent and amount of displacement of the GMF are not well characterized (p. 257).
>
> **Conclusions. . .** The southern end of the GMF has not been mapped in detail, but its southern termination is likely to be similar to that of the Rendija Canyon fault (p. 268).

DOE 2011 draft SEIS A. Should the necessary field investigations be performed to determine the southern extent and amount of displacement of the GMF as this knowledge is important for the design basis earthquakes for the proposed CMRR-NF?

241-10 cont'd

2] Fault Geometry – Dip Angle and Depth. The LANL 2007 PSHA Report describes the lack of knowledge of the fault geometry as follows on page 5-12:

> **<u>It is noteworthy that the fault dips are the most poorly constrained part of the model due to the lack of subsurface structural data</u>** [Emphasis Supplied].

241-5 cont'd

Response side of this page intentionally left blank.

Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

DOE 2011 draft SEIS B. Should the necessary field investigations be performed to determine the fault geometry, including fault dip and depth, as this knowledge is important for the design basis earthquakes for the proposed CMRR-NF?

3] Sense of Slip. The required fault-slip direction data have not been acquired as explained on page 5-11 in the 2007 PSHA Report:

> Very few kinematic data regarding fault-slip direction are available for the PFS. … Unfortunately, slip direction data are lacking on the [primary] PAF [Pajarito Area Fault].

DOE 2011 draft SEIS C. Should the necessary field investigations be performed to determine the fault-slip directions for the primary PAF, and the subsidiary GMF, RCF and SCC (Santa Clara Canyon Fault) as this knowledge is important for the design basis earthquakes for the proposed CMRR-NF?

241-5 cont'd

4] Mmax [maximum moment] The LANL 2007 PSHA Report describes the larger maximum moment and greater seismic hazard from synchronous ruptures than simultaneous ruptures on page 7-3 as follows:

> The hazard is higher for synchronous rupture because the ground motions will be larger from seismic slip involving two subevents versus more uniform slip in a single albeit larger simultaneous event.

A very serious issue is that Section 5 of the LANL 2007 PSHA Report calculated a smaller maximum Richter magnitude seismic hazard at the proposed CMRR-NF for the ruptures from multiple synchronous earthquakes than from the simultaneous ruptures from a single earthquake as follows:

> ***5.1.2.4 Maximum Magnitudes. . .*** We calculated preferred magnitudes for both simultaneous and synchronous ruptures. Weighted mean-maximum magnitudes range from **M** 6.94 (for RS-a) to **M** 7.27 (for ~~RS-g~~ ***sic*** RS-e) for simultaneous ruptures. . . We estimated maximum magnitudes for both subevents of the synchronous ruptures using the same approach and these are consistently slightly smaller than for the simultaneous ruptures (Table 5-11), but the sum of the moment for the two subevents is within 10% of the moment for the simultaneous rupture of the same rupture scenario.

DOE 2011 draft SEIS D. Should the necessary field investigations be performed to correctly calculate the maximum moment for synchronous and simultaneous ruptures of the PFS, including the primary PAF and the subsidiary GMF and RCF, as this knowledge is important for the design basis earthquakes for the proposed CMRR-NF?

241-2 cont'd

5] Earthquake Recurrence Rate. The LANL 2007 PSHA Report recognized that there was insufficient knowledge of the earthquake recurrence rate and more field work with paleoseismic investigations were needed as follows:

> If the late Quaternary record is indeed incomplete, as we believe, then future paleoseismic investigations will, if anything, increase the number of surface-faulting events identified on the PFS. We have tried to consider

241-13 cont'd

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Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

> the potentially incomplete record in developing and weighting rupture models and recurrence interval distributions for the PFS (p.5-15).

DOE 2011 draft SEIS E. Should the necessary paleoseismic investigations be performed to correctly understand the late Quaternary record of the earthquake recurrence rate as this knowledge is important for the design basis earthquakes for the proposed CMRR-NF?

241-13 cont'd

6] Insufficient knowledge or the key parameter kappa. Section 10 "Recommendations" of the LANL 2007 PSHA used an assumed value of kappa because the LANL seismograph network did not provide usable data to calculate kappa.

> Conduct additional studies to better constrain kappa. Kappa is a key parameter in assessing the hazard at LANL (Section 6.2). Focused efforts should be made to evaluate kappa using data from the LANL seismographic network. <u>Improvements in the network may be necessary to improve data quality</u> [Emphasis Supplied].

DOE 2011 draft SEIS F. What is the current status for the LANL seismographic network to provide high quality data for the calculation of kappa as this knowledge is important for the design basis earthquakes for the proposed CMRR-NF?

241-8 cont'd

7] Insufficient knowledge of the seismic properties of the reference rock dacite. The LANL 2007 PSHA Report used an assumed value for the shear velocity of the dacite below the proposed CMRR-NF because of the very low value that was measured in the only borehole that was drilled a short distance into the dacite. The LANL 2007 PSHA Report recommended for LANL to do additional field work to measure the shear velocity of the dacite (see page 39 of this report). The complex change in the "reference rock datum" at LANL requires shear velocity measurements in many testholes drilled deep into the reference rock.

DOE 2011 draft SEIS G. What is the status of LANL operations to measure the shear velocity of the "reference rock datum" in testholes at many locations site-wide and specifically at the location of the proposed CMRR-NF?

The LANL Seismic Hazards Geology Team recognized the need for a robust kinematic model for the PFS in Lewis et al., (2009) as follows:

> Despite the importance of understanding the geometry of the fault system and potential linkage among faults for purposes of seismic hazard analysis, a robust kinematic model of the [Pajarito] fault system is lacking (p. 252).

DOE 2011 draft SEIS H. Is a robust kinematic model necessary for knowledge important for the design basis earthquakes for the proposed CMRR-NF?

DOE 2011 draft SEIS I. If so, does development of the robust kinematic model require field investigations of the seven key parameters listed in Questions DOE 2011 draft SEIS A through DOE 2011 draft SEIS G above?

There is disagreement among the LANL scientists about the zones of intense fractures as evidence of active faults close to the proposed CMRR-NF location; 800 ft to the west, 1,600 ft to the north, and 2,500 ft to the east.

241-14 cont'd

*Gilkeson and CCNS Comments about DOE 2011 draft SEIS for CMRR-NF * June 28, 2011 * Page 42*

Response side of this page intentionally left blank.

Commentor No. 241 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

There is a need for independent peer review of the data acquisition and subsequent analysis processes at LANL; especially because of the disagreement among LANL scientists on the locations of active faults at the proposed CMRR-NF. The DNSFB addressed this issue on page 63 in the DNFSB TWENTY-FIRST ANNUAL REPORT TO CONGRESS:

> **4.10 Seismic Hazard Analysis**
> The Board continues to stress to DOE the importance of adequate review, including independent peer review, of both the acquisition of site-specific data and subsequent analysis to ensure that ground motions for design basis earthquakes are based on accurate scientific knowledge.

DOE 2011 draft SEIS J. Is the disagreement among the LANL scientists an issue that requires independent peer review of the data and subsequent analysis of Wohletz (2004) to ensure that design basis earthquakes for the proposed CMRR-NF are based on accurate scientific knowledge?

DOE 2011 draft SEIS K. If not, why?

DOE 2011 draft SEIS L. Should an independent peer review be done at the zones of intense fractures identified by Wohletz (2004) (Fig. 3 in this report)?

DOE 2011 draft SEIS M. If not, why?

241-3 cont'd

DOE 2011 draft SEIS N. Do the zones of intense fractures identify active faults close to the proposed CMRR-NF?

DOE 2011 draft SEIS O. If not, why?

DOE 2011 draft SEIS P. Should the zones of intense fractures be used as locations of active faults (Fig. 3 in this report) for design basis earthquakes for the proposed CMRR-NF?

DOE 2011 draft SEIS Q. If not, why?

241-10 cont'd

DOE 2011 draft SEIS R. Should the design work for the proposed CMRR-NF be halted because the accurate scientific knowledge of the seven key parameters listed above in Questions DOE 2011 draft SEIS A through DOE 2011 draft SEIS G are not provided to calculate the design basis earthquakes for the proposed CMRR-NF?

DOE 2011 draft SEIS S. If not, why?

241-8 cont'd

DOE 2011 draft SEIS T. Should the design work for the proposed CMRR-NF be halted because the necessary robust kinematic model is not provided for knowledge of the seismic hazard to calculate the design basis earthquakes for the proposed CMRR-NF?

DOE 2011 draft SEIS U. If not, why?

241-9 cont'd

We look forward to your responses.

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Commentor No. 242: Mary Beth Moore

From: Mary Beth Moore [marybethmooresc@gmail.com]
Sent: Thursday, June 23, 2011 4:14 PM
To: nepalaso@doeal.gov
Subject: Chemistry and Metallugy Research Replacement

Dear Mr. Tiegtmeir,

I am deeply alarmed at the proposed Chemistry and Metallugy Reseacrch Replacement Project. The CMRR project should be canceled, a study of LANL's plutonium infrastructure should be required - including existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR must be determined. We do not want a diseaster like the one Japan has just suffered. Let's opt for life. Think of your children and grand children. Cancell the project now. *242-1*

Sincerely Mary Beth Moore, SC

242-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding a request for a plutonium infrastructure study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 243: Terry Thompson

From: Terry Thompson (575) 751-4343 [terryt@taosnet.com]
Sent: Wednesday, June 22, 2011 6:27 PM
To: NEPALASO@doeal.gov
Cc: Senator@tomudall.senate.gov; NM03BLIMA@mail.house.gov
Subject: Comments about the Draft CMRRNF SEIS

This email is for Mr. John Tegtmeier, CMRRNF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA 3 Building 1410, Los Alamos, New Mexico, 87544; and any others accepting comments from residents of the affected area.

Recently I attended a meeting in Taos, NM, about the proposed project. It felt more like a "this is what we are doing" pitch than an opportunity for the residents of Taos to examine, debate, and register their concerns about this project. ***243-1***

My family and I are very concerned about the proposed plutonium pit production complex at Los Alamos. We feel that a complete, new EIS should be required ***243-2*** for this potentially very harmful expansion. The location is seismically active, and after the horrible environmental disaster affecting nuclear power plants in Japan, we know that our current scientific knowledge about the safety of such a project in a seismic zone is woefully inadequate. The proposed Supplemental EIS is not good enough to support building such a facility in a seismic zone that is not well understood. Furthermore, the building's design is not final, so any environmental studies should not be begun until the design is final. I can't imagine the government thinking it is a logical approach after 8 years has passed since the original EIS to not require a completely new EIS based on the extent of changes in design and pertinent known information available today. ***243-3***

We need to continue addressing the existing problems of clean-up at LANL, not begin new contamination and highly hazardous activities there. The American people are tired of living under the threat of nuclear warfare, terrorism, facility accidents, transport accidents, and economic downturns caused, in part, by the huge expense of waging several long-lasting wars in a number of countries overseas. We do not need more ramp-ups to war that cost billions of dollars and present unforeseen problems. We do not need 80 new plutonium pits (bomb triggers) a year. We need to respect our nonproliferation treaties and goals. ***243-4***

We do not need (and we strongly oppose) more environmental degradation caused by making war weapons, especially nuclear bombs. Los Alamos does not need an economic boost; but other parts of New Mexico do need environmentally friendly industries that aim to put this country and state back into prosperity--a peace-oriented prosperity. Let's stop the war machine and begin to address cleaning

243-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

243-2 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

243-3 NNSA notes the commentor's request for a new EIS after the design is complete. NEPA documentation is typically performed while the design of a project is still underway. There is enough design information available to perform a NEPA analysis for the CMRR-NF project. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able

Commentor No. 243 (cont'd): Terry Thompson

up the messes that we have and building self-sustaining energy industries such as wind power and solar power facilities. We live in a beautiful part of a beautiful state with a fascinating history and culture; let's not turn it into a wasteland unfit for life--just to keep our military machine expanding. Please listen and respect our point of view. Begin with a brand-new complete EIS that applies the most current knowledge to all of the proposed, final-design features of this project. ***243-4 cont'd***

Sincerely,

Terry Thompson
HCR 74 Box 22273
El Prado, NM 87529

to withstand a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*). See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The commentor's concerns that an accident (similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant) could happen at LANL is addressed in Section 2.8, Nuclear Accidents, of this CRD. There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant or Chernobyl) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems.

243-4 The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on LANL legacy waste cleanup. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 243 (cont'd): Terry Thompson

Regarding cost and the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

Commentor No. 244: Laura Jolly

From: laura jolly [laura.jolly@earthlink.net]
Sent: Thursday, June 30, 2011 9:21 AM
To: nepalaso@doeal.gov
Subject: We cannot afford more nuclear development, healthwise

I just heard about the new plutonium facility at the Los Alamos National Laboratory. This cannot go forward.

It is time to focus on cleaning up what is already existing as th ewaste at Los Alamos Lab. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

244-1 We who live here in NM right under this fire at Los Alamos understand that humans are NOT expendable...

Yes, this is about “national security”...But we want to work with those issues from another perspective. More weapons, more bomb factories, more waste, more expansion of the military is NOT the way to go.

Thank you for listening to my humble opinion. We desparately need a new direction to move in.

laura jolly
1963 kiva
santa fe, NM 87505

244-1 NNSA notes the commentor’s opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on LANL legacy waste cleanup. However, NNSA intends to continue implementing those actions necessary to clean up legacy waste sites at LANL regardless of decisions made on the proposed construction of the CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 245: Paki Wright

From: hobart & paki wright [hopakco@fairpoint.net]
Sent: Friday, July 01, 2011 12:45 PM
To: NEPALASO@doeal.gov
Subject: no plutonium bomb factory at Los Alamos!

Dear Sirs,

In view of the horrendous fire now burning all around Los Alamos, with no end in sight, it is the height of madness to envision putting a NEW plutonium bomb factory there, this is just bat s--t crazy to even contemplate. ***245-1***

Yours for a cancer-free future,

Paki Wright, Crestone, CO

245-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding cost and the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 246: Pamela Biery

From: Pamela Biery [pamela@pamelab.com]
Sent: Friday, July 01, 2011 2:21 PM
To: NEPALASO@doeal.gov
Subject: no nukes please

Please do not increase the dangerous use of hazardous nuclear materials in New Mexico, or anywhere we cannot absolutely control (translate: not on Earth). *246-1*

Thank you-

Pamela Biery
xxx.xxx.xxxx
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246-1 NNSA notes the commentor's opposition to the use of hazardous nuclear materials. As noted in Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD, NNSA must continue to operate nuclear facilities such as the existing CMR Building at LANL in order to meet its national security obligations.

Commentor No. 247: Lea Bradovich

From: Lea Bradovich [leab@cybermesa.com]
Sent: Friday, July 01, 2011 2:32 PM
To: NEPALASO@doeal.gov
Subject: Bomb Factory in Los Alamos

Dear Public Servants at the DOE,

As I write this from Santa Fe, NM, the air is smoky, visibility is low, all of the windows are closed and the air cleaner is humming. A monster forest fire is once again threatening LANL, creating a sense of dread in Northern New Mexico. Santa Feans are shaking their heads in dismay. 11 years after the last fire LANL is still storing plutonium contaminated wastes in tents. TENTS!

Nobody knows what is burning up there. The forests are stressed because of the drought, which is predicted to last 60 years.

Yet plans are being made to expand nuclear warhead (plutonium pit) production at LANL. The new plant will take vast amounts of our scarce water. It will be located in the remote, forested mountains of our beautiful state in an area prone to catastrophic forest fires.

This is also an area of seismic and volcanic activity.

It's a bad idea. Please re-think this poorly conceived plan.

247-1

Sincerely,

Lea Bradovich
Sant Fe, NM

247-1 NNSA notes the commentor's position that the CMRR-NF project should be stopped and re-evaluated. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources). The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. However, NNSA has taken actions to mitigate the risks of a wildfire on the domes. In 2000, the Cerro Grande fire burned a heavily forested canyon area to within about 0.75 miles (1.2 kilometers) of the waste storage domes, but none were burned and there were no radiological releases from the domes. The Las Conchas fire reached the southern border of LANL, but did not get within 2 miles (3.2 kilometers) of the domes. Additional fuel reduction has been conducted since the Cerro Grande fire, both to the vegetation surrounding TA-54 and within the domes themselves (for example, wooden pallets have been replaced with metal pallets), to further decrease the potential for a waste storage dome fire occurring as a result of a site wildfire. Furthermore, NNSA has an active program to remove the waste stored at Area G and ship it to WIPP for disposal.

The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapters 3 and 4 (Sections 3.5.2 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). Based on the report, future planning will be performed to consider CMRR-NF structural requirements for ash-loading.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

LANL approaches sustainability on a site-wide basis, knowing that new facilities will require the use of limited resources. New projects such as the proposed CMRR-NF are constructed in a manner that improves the efficiency of energy and water use site wide. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 248: Jim Haber, Coordinator Nevada Desert Experience

From: Haber.Jim [haber.jim@gmail.com] on behalf of Jim at NDE [jim@nevadadesertexperience.org]
Sent: Tuesday, June 28, 2011 7:15 PM
To: NEPALASO@doeal.gov
Subject: Comments on CMRR-NF SEIS

Mr. John Tegtmeier
CMRR-NF SEIS Document Manager
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico, 87544
By e-mail to NEPALASO@doeal.gov

248-1

The CMRR-NF has many problems, some of which are environmental, and others that have to do with geo-political nuclear issues. Nothing having to do with nuclear power or nuclear weapons can be good or worthwhile vis a vis the environment. There is no justification for building CMRR-NF, so any environmental issues aren't worth it.

It seems like a lot of work, so much that a full, new EIS should be made, not just updating the old one. The fires currently licking at Los Alamos further the need for a fuller review of any new work to be done there, and necessitating a review of proposed and existing EIS to see how it's good or not.

Respectfully,

Jim Haber, Coordinator
Nevada Desert Experience
1420 W. Bartlett Ave.
Las Vegas, NV 89106
xxx-xxx-xxxx
jim@NevadaDesertExperience.org

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Check out http://NevadaDesertExperience.org for NDE action updates and news about the Nevada Test Site and Creech Air Force Base's Predator and Reaper, "hunter-killer," remotely piloted systems. Get our newsletter, Desert Voices, and even make a donation on-line there too. Thanks.

248-1 NNSA notes the commentor's opposition to nuclear power, nuclear weapons, and the construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 249: Ryan Potoff

From: Ryan Potoff [rpotoff@gmail.com]
Sent: Tuesday, June 28, 2011 4:47 PM
To: NEPALASO@doeal.gov
Subject: Stop New Nuclear Weapons Plant, Earthquake Zone by 6/28

Dear Department of Energy,

Please consider my message as this is how I truly feel and know of many others who feel this way, as well. I am deeply concerned about the construction of the new CMRR plutonium reprocessing and storage facility in New Mexico. Plutonium is the most toxic substance on earth and this facility store six tons of it. Also, there are many other important causes, such as education and environmental protection, to spend the $6 billion dollars on, rather than weapons that kill people. Please reconsider the construction of this facility, which will pose a greater threat than it will ever reduce. *249-1*

Sincerely,

Ryan Potoff

Ryan Potoff
56 Pine Plain Rd.
Wellesley, MA 02481

249-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 250: Alfred Cavallo

From: alfred cavallo [cavallo-harper@verizon.net]
Sent: Monday, June 27, 2011 1:57 PM
To: NEPALASO@doeal.gov
Subject: Stop New Nuclear Weapons Plant, Earthquake Zone by 6/28

Dear Department of Energy,

I'm concerned about the construction of the CMRR plutonium reprocessing and storage facility in New Mexico. It will store six tons of the most highly toxic substance on Earth, plutonium, and will be able to produce 20-80 new nuclear weapons each year.

First of all, the costs have ballooned by 1000%, from $600 million to $6 billion. Most importantly, this facility can be used to negate President Obama's pledge to end nuclear weapons.

How can we criticize Iran and North Korea for their nuclear weapons programs when the US builds a new nuclear weapons factory? This is going one step forward, 3 steps backwards.

250-1

Sincerely,

alfred cavallo
princeton, NJ

250-1 NNSA notes the commentor's concern about the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 251: Joan Broadfield

From: Joan Broadfield [broadfieldje@gmail.com]
Sent: Monday, June 27, 2011 11:11 PM
To: NEPALASO@doeal.gov
Subject: Stop New Nuclear Weapons Plant, Earthquake Zone by 6/28

Dear Department of Energy,

I'm concerned about the construction of the CMRR plutonium reprocessing and storage facility in New Mexico. It will store six tons of the most highly toxic substance on Earth, plutonium, at the government's facility. Second, the costs have ballooned by 1000%, from $600 million to $6 billion.

Finally, this facility can be used to reverse the program, from President Obama's pledge to end nuclear weapons, to produce as many as 80 nukes each year. This is going one step forward, 3 steps back, with plutonium—the most deadly, toxic substance in the world.

251-1

Sincerely,

Joan Broadfield
2430 Lindsay St
Chester
Chester PA 19013, PA 19013

251-1 NNSA notes the commentor's concern about the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 252: Rachael Montag

From: Rachael Montag [mgminsurance@embarqmail.com]
Sent: Tuesday, June 28, 2011 3:46 PM
To: NEPALASO@doeal.gov
Subject: Los Alamos Nuclear Expansion Opinion

To Whom It May Concern,

Our nation's resources should not in any way at this time be put to such wasteful use as to expand our nuclear weapons capabilities. This is absurd behavior in times where our own people are hungry, homeless and unemployed. What is the use in investing in facilities like these when they pose such and extreme risk to their surrounding population let alone the risk of major contamination to the nation? The current fire that is threatening this plant is prime example of this. Where are the safety measures that should be in place from the last fire?? It is unacceptable that the fire has reach the proximity that it already has to the nuclear lab. There are far better options to provide protection from foreign threats that are safer for our nations people. It is time we use our heads and thoroughly assess the situation before we cause any more harm to our nation. *252-1*

Sincerely,

Rachael Montag

252-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 253: Lily Jacobs

Comments on the CMRR SEIS

I feel very upset and afraid at the moment as I watch this terrible fire from my window burning around LANL.I just cannot understand why we need to make more weapons, and why this facility is so obviously unsafe , so near a large population! I dont understand how a new project can be started there, when clean up from the past has not even been completed! We have no idea what is being burned in the air as this fire blazes and we have no way to protect ourselves and are not even being told how to protect ourselves it is unacceptable! *253-1*

As a citizen I am given the "opportunity" to comment on my governments plan to construct a huge facility for the design, manufacture and storage of nuclear bombs just 26 miles from my home and just 2/3 of a mile from a fault line. I am supposed to tell my government if this is or is not a good idea. In the interest of good governance this fact alone should be a deal breaker for the CMRR. Due to past volcanic activity in the proposed construction site the tuff layer of soil contains a high concentration of volcanic ash and therefore is unstable. The cost-saving so called Shallow Option is unproven. Seismic investigations are currently in process at the lab. Until these investigations can be completed no decision to go forward should be made. *253-2*

Besides the insanity of build this nuclear facility 2/3 of a mile from a known fault line, there is a total lack of need for a new generation of nuclear weapons. Our current arsenal of nuclear warheads is more then enough of a deterrent and is more than adequate to get the job done if the need should ever arise. Our nation has been getting along with creating approximately 20 needless pits per year. Why expand that production capacity by four times with this new NF when our nation is supposedly seeking a future world free from nuclear weapons? Expanding US capacity would certainly breed distrust and compromise our efforts for nuclear nonproliferation and nuclear arms reduction. *253-3*

Another reason not to go forward with this project is that our nation simply can't afford to rebuild a plutonium pit production complex at this time. In 2004 when LANL first proposed building the CMRR our country never perceived that we would be in the financial mess that we find ourselves in today. In 2004 the estimated cost to build this nuclear facility was estimated to be $600 million. With a current estimated price tag of $6 billion to upgrade the existing facility we need to put the brakes on. This investment will lock in Los Alamos' future to the hopefully shrinking business of nuclear weapons research and production. There are much more strategic uses of our nations scientific and creative resources. If we want to get serious about spending cuts defunding the CMRR would be a good place to start. *253-4*

253-1 NNSA notes the commentor's opposition to nuclear weapons and the construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

253-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis

Commentor No. 253 (cont'd): Lily Jacobs

As I am getting ready to submit these comments on this proposed CMRR Nuclear Facility, Los Alamos National Laboratory is once again threatened by a massive, out-of-control wildfire that already exceeds the Cerro Grande Fire of 11 years ago. Los Alamos today is under a state of emergency and mandatory evacuation. The Laboratory is surrounded by dense, steep and distressed Ponderosa forests. We know very well that these forests can easily propagate catastrophic crown fires that are very difficult to contain. Add in the likelihood of prolonged drought, low humidity and unpredictable winds and the risks of expanded plutonium pit production at LANL will only become more risky in the ensuing years. **253-5** Water in these mountains of the Southwest is always precious and often in short supply. This arguably unnecessary facility is slated to consume 16 million gallons of water per year. **253-6**

While the CMRR-SEIS considers the threat of a site-wide fire at the Lab, it only addresses fires that are seismically induced or that begin within the Nuclear Facility itself. The threat of wildfire like we are experiencing today is not comprehensively considered nor does this document address the Lab's ability to respond in the event of mass evacuations and the loss of the power grid. A complete analysis of this very real threat needs to be undertaken before there is another wildfire. **253-5 cont'd**

With Respect

Lily Jacobs
1704B Llano st #166
Santa Fe
NM 87505

earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

253-3 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

253-4 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

253-5 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part

Commentor No. 253 (cont'd): Lily Jacobs

of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

253-6 As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. LANL approaches sustainability on a site-wide basis, knowing that new facilities will require the use of limited resources. New projects such as the proposed CMRR-NF are constructed in a manner that improves the efficiency of energy and water use site wide. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Commentor No. 254: Janet Greenwald, Co-coordinator, Citizens for Alternatives to Radioactive Dumping

Supplemental CMRR Comments

My daughter and her husband, my son and his wife and two young children live on our family farm in Dixon, directly downwind from Las Alamos. Yesterday, due to fire and smoke from a fire near the lab, my daughter-in-law and their children left for Albuquerque; my daughter and her husband stayed.

We do not know whether or not the ash that fell on both family's gardens is radioactive. We know that the trees that grow in the canyons where legacy waste was dumped carry some radioactivity; we also know that the clean up of the legacy waste has never been a priority for the labs. We keep reading articles that say all the waste at Los Alamos is safely contained but we know differently. We know that the transuranic waste at Area G is stored in tents; we have done our best to change this practice but it seems to be a matter of money; it would cost too much, according to officials, to build a bunker to store these thousands of barrels of mixed chemical and radioactive wastes safely. The fire is not contained, the labs and all who live downwind from them are not out of danger yet. ***254-1***

Though there is not money for cleanup or safe containment at the Labs, there is now a six billion dollar bomb-making building proposed for the labs, the CMRR building, to be built close to an earth quake fault. While we can not conceive of an enemy that could not be destroyed by the existing 1,000 plus nuclear bombs already in our country's possession, most of which are being stored in Albuquerque, we also know from the Jason Group report that those nuclear bombs will remain reliable for 100 years. (The Jason Group includes members of the prestigious National Academy of Sciences.). ***254-2***

It is difficult to believe in a government that would choose to put six billion dollars into an unneeded building while consistently refusing to do what needs to be done at the Labs to protect those of us who live close to the Labs. We remember that President Eisenhower warned us about the Military Industrial Complex, that it was powerful and could easily over influence government decisions. It seems to us that that is what has happened; the nuclear industry must go on, must expand because too many very powerful corporations depend on it, not because more nuclear bombs offer any defense advantage. ***254-3***

254-1 The EPA, NMED and LANL staffs have each obtained samples of ash from the Las Conchas fire and test results have not identified levels of radioactivity above background level expectations. This fire did not burn over areas of LANL where legacy waste resulted in soil contamination.

NNSA does not consider environmental restoration to be optional and progress on implementing those efforts is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. However, NNSA has taken actions to mitigate the risks of a wildfire on the domes. In 2000, the Cerro Grande fire burned a heavily forested canyon area to within about 0.75 miles (1.2 kilometers) of the waste storage domes, but none were burned and there were no radiological releases from the domes. The Las Conchas fire reached the southern border of LANL, but did not get within 2 miles (3.2 kilometers) of the domes. Additional fuel reduction has been conducted since the Cerro Grande fire, both to the vegetation surrounding TA-54 and within the domes themselves (for example, wooden pallets have been replaced with metal pallets), to further decrease the potential for a waste storage dome fire occurring as a result of a site wildfire.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 254 (cont'd): Janet Greenwald, Co-coordinator, Citizens for Alternatives to Radioactive Dumping

The CMRR building has become, for us who live close to the labs, a symbol of corruption in government. What we would like is some proof from you and all those who are in power that the good of the citizens of this country, not greed, is what is uppermost in your minds as you make your plans. ***254-1 cont'd***

Sincerely,

Janet Greenwald
Co-coordinator, Citizens for
Alternatives to Radioactive Dumping (CARD)
202 Harvard SE
Albuquerque, New Mexico 87106

254-2 NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a). Refer to Section 2.4, CMR Mission, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

254-3 Comment noted.

Commentor No. 255: Kathi Mottram

From: Kathi Mottram [lindlv@aol.com]
Sent: Tuesday, June 28, 2011 7:00 PM
To: nepalaso@doeal.gov
Subject: CMRR is not the answer

I was just recently told about your new plutonium facility at the Los Alamos National Laboratory. Here are several reasons I believe it is not in the interest of any U.S. citizen to have this facility built:

Cost

Earthquake vulnerability

Fires

Productions of known carcinogens

and most importantly,

the stockpiling of dangerous carcinogenic waste which has to be "stored" for an undetermined amount of time in a place immune to natural or manmade disaters. Is there such a place?

Is this how we want to proceed with the advancement of the US?

255-1

Kathi Mottram
40105 97th st west
leona Valley, CA 93551

255-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 255 (cont'd): Kathi Mottram

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 256: Scott Shuker

From: Scott S. [scottdas68@hotmail.com]
Sent: Friday, July 01, 2011 3:58 PM
To: nepalaso@doeal.gov
Subject: Plutonium weapons production at LANL

Congratulations. Your continued operations at LANL have created an even potentially deadlier health and environmental hazard with the Los Conchas fire. It appears that Mother Nature may do what decades of protest could not yet we will all pay a deadly price that may exist for millenia. *256-1*

I suggest an alternate use of that $6 billion: Jobs that would go to 12,000 individuals including from the distressed communities like Santa Clara, Cochiti and others; $50K a year for each individual for ten years—for forest restoration, watershed restoration and management, replenish our communities, and give people back their humanity. Sounded like an excellent plan to me, but instead, we're planning to use that money to build nuclear bombs to blow up the planet.

In 2008 Santa Clara Pueblo passed Tribal Resolution No. 08–16 in which the Pueblo opposes the expansion of plutonium pit production. This was in response to the Complex Transformation Supplemental Programmatic Environment Impact Statement. Along with the one–page resolution we also included 22–page comments from 256 community members, and some of which were included in congressional record.Your drive for more weapons production is an addiction and many of you need to go into rehab. It is heartbreaking that you disregard the sacred nature of land. You appear to want to make Los Alamos a permanent and perpetual nuclear bomb factory. It's the genocide of pueblo people. *256-2*

Scott Shuker
Santa Fe, NM

256-1 NNSA notes the commentor's opposition to continued operations at LANL. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

256-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA notes the commentor's opposition to build a plutonium pit production complex at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are

Commentor No. 256 (cont'd): Scott Shuker

not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

Commentor No. 257: Alexis Brown

From: Alexis Brown [lamariposa@gmail.com]
Sent: Friday, July 01, 2011 3:58 PM
To: NEPALASO@doeal.gov
Subject: opposition to CMRR Nuclear Facility project

Because of the drought, the massive size of the Las Conchas fire, the fact that the state has burned nearly 2000 square miles this year alone, and the fact that LANL is located in a high risk fire zone, I am writing to voice my opposition to the CMRR Nuclear Facility project.

In addition to the fire danger and the risks associated with that, I am also opposing this project because the tax dollars can and should be used to HELP society, not destroy it. $6B can create jobs, help the environment, aid social service non-profits. I do NOT want my tax dollars paying for this project.

257-1

Alexis Brown
Santa Fe, New Mexico

257-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 258: Lauren Heartsill

From: Lauren heartsill [laurenheartsill@gmail.com]
Sent: Friday, July 01, 2011 3:19 PM
To: NEPALASO@doeal.gov
Subject: Hi

Dear Sirs,

I would like to protest the proposed Plutonium Production Plant at Los Alamos...we do not need any more production of these horrible weapons...we have enough! *258-1*

Lauren Heartsill

258-1 NNSA notes the commentor's opposition to nuclear weapons and the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 259: Annie Degen

From: annie degen [laanniemala@yahoo.com]
Sent: Friday, July 01, 2011 4:22 PM
To: NEPALASO@doeal.gov
Subject: los Alamos

i , for one
want ouut of using nuclear energy.

is it 10% of our energy use??

i would easliy use that much less
as it is i am on very minimal solar

nuclear energy is DANGEROUS
as nature has been trying to tell us
poison for all living beings and the planet as well

i conclude that humans are greedy and insane.

please stop now.

annie degen

259-1

259-1 NNSA notes the commentor's opposition to nuclear energy. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 260: Michelle Victoria-Delon

From: michelle delon [smartlifeways@gmail.com]
Sent: Friday, July 01, 2011 4:28 PM
To: NEPALASO@doeal.gov
Subject: comments

I am writing as a concerned citizen and Santa Fe resident about the proposed project at LANL that will create a plutonium pit to build nuclear weapons. This plan is so dangerous for many reasons, one of which we are experiencing right now-a major fire. Already the fire came quite close to Los Alamos and it is only thanks to the wind direction that the lab has not faced the fire on its property, and the work of the fire fighters.

As temperatures increase it is becoming increasingly clear that more fires can be expected. This is one reason this project cannot be allowed to continue. *260-1*

In addition the lab sits on and near fault lines, which also increase the potential dangers of this site. I have also read that such a facility will use tremendous amounts of water and as the entire southwest faces droughts we need all the water just to sustain the existing communities...there is no extra water in this part of the country for such a project. *260-2*

The issue of whether or not we need additional nuclear weapons is also something to be considered. While encouraging the rest of the world to decrease nuclear arsenals it makes no sense for the US to be rebuilding theirs. This will only encourage other nations to do the same. *260-3*

Another factor is that in these times of economic crises how such expenditures can be justified is hard to imagine. Teachers are being fired, schools shut down, people are losing jobs and homes daily and our government wants to spend billions to build more dangerous weapons. It is time for our government to start paying more attention to community building and not bomb building. I recognize that these are policy issues and cannot be decided in such a forum, however they do need to be considered. *260-4*

260-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

260-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 260 (cont'd): Michelle Victoria-Delon

But as far as this location for this sort of plant it is just far too dangerous. As we have narrowly escaped this time, at least so far, from the fires devastation at LANL we may not be so lucky next time.

I thank you for your deep consideration of these comments and those that come from other concerned citizens.

Kind regards,

Michelle Delon

Michelle Victoria-Delon
Smart Lifeways LLC
www.smartlifeways.com
michelle@smartlifeways.com
twitter: smartlifeways
facebook: SmartLifeways

PO Box 9449
Santa Fe, NM 87504
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xxx-xxx-xxxx mobile

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P Please consider the environment before printing this e-mail

As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. LANL approaches sustainability on a site-wide basis, knowing that new facilities will require the use of limited resources. New projects such as the proposed CMRR-NF are constructed in a manner that improve the efficiency of energy and water use site wide. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

260-3 President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

260-4 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. See Section 2.7, Economic Impacts, of this CRD for information on the economic impacts as evaluated in the *CMRR-NF SEIS*.

Commentor No. 261: Danae Falliers

From: danae falliers [danae@studiotodo.com]
Sent: Friday, July 01, 2011 5:01 PM
To: NEPALASO@doeal.gov
Subject: warheads in Los Alamos

NO!!!!!!! *261-1*

Danae Falliers

www.studiotodo.com

261-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

Commentor No. 262: Betsy Bauer

From: Betsy Bauer [betsy@betsybauer.com]
Sent: Friday, July 01, 2011 5:12 PM
To: NEPALASO@doeal.gov
Subject: Plutonium Pit

Hello,

I live in Santa Fe and am definitely against the proposed plutonium pit here in NM. I am writing for myself, my children and future generations. Please listen to our words. ***262-1***

Thank you,

Betsy Bauer
Santa Fe, NM

262-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

Commentor No. 263: Reverie de Escobedo

From: Reverie Escobedo [reveriee2@gmail.com]
Sent: Friday, July 01, 2011 6:43 PM
To: NEPALASO@doeal.gov
Subject: Stop plutonium project

As an informed citizen concerned about my own health and that of my fellow citizens I am firmly requesting that this project be stopped immediately. I know you know all of the scientific research and dangers involved, as well as the alternatives to this work. STOP NOW! *263-1*

Regards, Reverie de Escobedo

263-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

Commentor No. 264: Shari Korthuis

From: CenturyLink Customer [skorthuis@centurylink.net]
Sent: Friday, July 01, 2011 6:58 PM
To: NEPALASO@doeal.gov
Subject: CMRR Nuclear Facility Project

Please stop the funding and planning of building the above referenced nuclear facility-With New Mexico's water shortage, fires raging to Los Alamos and all over the state and a 60 year drought (possible) ahead, our country cannot afford this project in terms of human life and well being and social justice and the environment-Use this money to install solar panels, wind power, put people to work, not build more nuclear weapons-They just kill and I think we had done enough killing in our history-Please stop the madness and invest in our people and mother earth-Please don't build this plant-Thanks so much for your time and attention-Shari Korthuis *264-1*

264-1 NNSA notes the commentor's opposition to the funding and building of a new CMRR Facility at LANL. Funding decisions regarding major Federal programs (for example, health care and alternative sources of energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 265: Iscah Trujillo

From: Iscah Trujillo [iscah505@gmail.com]
Sent: Friday, July 01, 2011 7:26 PM
To: nepalaso@doeal.gov
Subject: Future Plutonium Pits at LANL

Hello,

I am writing in opposition to the proposed new plutonium pits at LANL.

I am 37 years old, born and raised in New Mexico. Left for ten years and then came back.

This is my home, my families home and home to many people I love. I was pregnant with my daughter during the Cerro Grande fire. She is now ten and once again, we are breathing smoke from Los Alamos, wondering what toxic effects it may have on us. I am asking the person reading this to consider what better options, we as human beings, have for creating a safe world to live in. Is creating more weapons to kill others with, and in the process, creating more life threatening by products, really going to create a safe world for you to live in? *265-1*

I pray we can find a better way to live together and with our Earth.

Blessings and Love

Iscah Trujillo

265-1 NNSA notes the commentor's opposition to the CMRR-NF project. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the CMRR-NF SEIS, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 266: Laure Liverman

From: eva laure liverman [llivman@gmail.com]
Sent: Friday, July 01, 2011 8:08 PM
To: NEPALASO@doeal.gov
Subject: plutonium pit facility - NAY

As a resident of New Mexico I would like to express my opposition to the proposed plutonium pit facility at LANL, particularly in the light of the Las Conchas fire and the presence of a fault line in the area. The explicit reasons are manifold and I'm sure others have expressed it more eloquently and succinctly than I am able to in this email.

I hope that you take all the concerns expressed from respondents into full consideration.

266-1

Sincerely,

Laure Liverman RN, MSN
125 Mesa Verde St.
Santa Fe, NM 87501

266-1 NNSA notes the commentor's remarks of opposition to the CMRR-NF project. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 267: Roselynne Broussard

From: Roselynne Broussard [roslynb58@yahoo.com]
Sent: Friday, July 01, 2011 8:15 PM
To: NEPALASO@doeal.gov

I strongly protest any further development at LANL for storage of any nuclear waste. *267-1*

267-1 NNSA acknowledges the commentor's protest of any further development at LANL for storage of any nuclear waste. In the *CMRR-NF SEIS*, NNSA is not proposing to store any additional radioactive waste; however, there would be additional low-level radioactive waste, mixed low-level radioactive waste, and transuranic waste generated during operations. There are disposal facilities for these wastes. See Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 268: Roselynne Broussard

From: Roselynne Broussard [roslynb58@yahoo.com]
Sent: Friday, July 01, 2011 8:18 PM
To: NEPALASO@doeal.gov

I AM STRONGLY AGAINST THE PROPOSED PLUTONIUM PIT FOR LANL. NO MORE ENDANGERING THE LIVES OF NEW MEXICO RESIDENTS AS WELL AS THE PLANET EARTH. ***268-1***

ROSELYNNE BROUSSARD
NEW MEXICO RESIDENT

268-1 NNSA notes the commentor's opposition to plutonium pit production at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 269: Anna Molitor

From: anna molitor [anna.molitor@gmail.com]
Sent: Friday, July 01, 2011 8:19 PM
To: NEPALASO@doeal.gov
Subject: Opposed to the proposed plutonium pit facility at LANL - please extend comment period due to massive wildfire burning at borders of LANL

As I sit watching the fires from my window here in Santa Fe, I am shocked and heartbroken to hear that there is a proposal for increased nuclear activity at LANL. Every day I put my suitcase in my car as I go to work, wondering if I'm going to have to leave my beloved home in order to protect my health. With the frequency of drought in this land, it is absolutely unconscionable that the nuclear activity increase here. There is more and more danger of fires just like this exteme fire before us now. We cannot allow this to happen. ***269-1***

Please extend the comment period so more of us who are sitting in shock, watching the fires edge closer and closer and crossing the border into LANL, can have time to be heard in this democracy. ***269-2***

Thank you,

Anna Molitor

--

"tell me, what is it you plan to do with your one wild and precious life?" ~mary oliver

269-1 NNSA notes the commentor's concern of the fires near LANL and the concerns of water resources and usage. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS,* forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

269-2 NNSA notes the commentor's request to extend the public comment period. The CMRR Project was first analyzed in the 2003 *CMRR EIS* (DOE/EIS-0350). In response to the Las Conchas fire, which affected the Los Alamos community, NNSA extended the public comment period to July 5, 2011. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

Commentor No. 270: Susan Rose

From: AstroLogo77@aol.com
Sent: Friday, July 01, 2011 9:31 PM
To: NEPALASO@doeal.gov
Subject: Stop the weapons making at Los Alamos!

To whom it may concern:

One need not come from an Indigenous tribe to read the Sign Language that is abundantly expressing itself. I remember noticing what spiritual persons might regard as karmic blowback when after the U.S. launched a war of aggression against Iraq, on a case that was FIXED for war, that having eviscerated that region via The Gulf War, our very own Gulf of Mexico seemed targeted by Nature, Herself. No lesson was learned.

The B.P. oil disaster put human mistakes, and/or hubris on display for all the world to see, and for all the coastal residents to feel. Dead dolphins are but one of the trophies in this war on nature, or thoughtless ecocide.

The awful event comprised of both quake and tsunami that hit Japan in March, has left Fukushima as a gaping wound, emitting radiation that few authorities bother to measure, whilst few media sources dare to panic the public with facts. We know that most of the emissions have substantial half-lives and that many of these atomic particles are correlated to cancer.

270-1

Do you know that the spiritual teacher Yogananda gave a talk at the United Nations back in l949, seeking to explain that violence unleashed by human beings has its counterpart in disrupting invisible energy-based systems. These vibrations have much to do with holding the natural world together, i.e. stabilizing its systems. In spite of so much coming apart, and insurance companies no longer questioning climate change as the numbers are too strongly holding them to account for all the wild, unprecedented events that have spend up in frequency, intensity, and severity very rapidly... where has there been any scaling back in the way of violence?

Martin Luther King wisely stated that a nation that invests more in armaments than spiritual uplift for its people approaches spiritual death. And that is where the U.S., as a nation stands. That so much blood and treasure is wasted on nonsensical wars, those more likely about resource acquisition than any of the noble precepts used to "sell" them to The People, when it's needed at home to fund health care, affordable housing, public education, a stronger EPA, and programs that enrich and TRULY protect the citizenry is anything but the indication of National Security.

270-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 270 (cont'd): Susan Rose

First there is a knock on the proverbial door. If it's not opened (i.e. the message not received), eventually the door will be blown down. That is what we see with the fires that cannot BE contained surrounding Los Alamos. This is OBVIOUSLY a sign to cease and desist! Although there probably is no greater force of hubris than the U.S. military, incidentally the same machine that Eisenhower warned against in the speech given when he left office, there ARE higher powers. Nature is now showing her muscle.

The Native Americans who live downwind have suffered enough from the nuclear tests facilitated in the l940's. The uptick in natural disasters makes clear that few to no places are safe, especially when it comes to the storage of weapons so toxic that their radioactive emissions will be the "gifts" that keep on giving for many generations.

270-1 cont'd

Those who have devoted their careers to the agencies of death, and shown such a bankruptcy of conscience as to think this type of endeavor is protected by alleged patriotism know nothing about mercy, compassion, or Universal Law.

If letters from concerned citizens still mean anything, if this is indeed the democracy our defense department claims to be fighting to protect, then hear my voice and those of others! It is time to decommission these tools of death on a massive scale, and instead put the efforts of scientists and military personnel towards designing cities that can withstand the coming earth changes. It is time to GREEN the nation and use a variety of technologies that lessen our collective reliance on fossil fuels. If our thinkers got people to the moon, if they can store incredible amounts of data on a tiny computer chip, a Manhattan Project style incentive based on developing energy technologies that go more gentle on this great earth is overdue. Choose life!

270-2

Sincerely, Susan Rose

270-2 Project decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 271: Jennifer Davies, MD and William Davies, MD

From: Jenny and Bill Davies [mudpies5@spiritone.com]
Sent: Saturday, July 02, 2011 12:52 AM
To: NEPALASO@doeal.gov
Subject: CMRR Nuclear Facility project

To Whom It May Concern,

We are adamantly opposed to this new project to expand plutonium pit production at LANL. There are so many reasons that this is an inappropriate use of taxpayer money. We need to be investing in a sustainable future. The CMRR project only helps seal our fate as a dying species on this planet. ***271-1***

Sincerely,

Jennifer Davies, MD

William Davies, MD

271-1 NNSA notes the commentor's opposition to expanding plutonium pit production at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 272: Timothy Key Price

From: timothy.key.price [timothy.key.price@valley.net]
Sent: Saturday, July 02, 2011 8:01 AM
To: NEPALASO@doeal.gov
Subject: No more nuc-factories in New Mexico

…stop this plan to make New Mexico a permanent nuclear bomb production state.

…imagine a different and more sustainable and just future for all life on earth. There exists a brighter future for New Mexico, one that is powered by the sun and the wind—not by nuclear, coal, oil and gas that our Governor Susana Martinez would like to continue to keep us locked in. *272-1*

timothy.key.price

timothy.key.price@valley.net

272-1 NNSA notes the commentor's opposition to the funding and building of a new CMRR Facility at LANL. Funding decisions regarding major Federal programs (for example, health care and alternative sources of energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 273: Mary J. Whiteman

From: mary whiteman [mjwhiteman2003@yahoo.com]
Sent: Saturday, July 02, 2011 8:18 AM
To: NEPALASO@doeal.gov
Subject: comments re draft CMRR-NF SEIS

Dear Mr. John Tegtmeier,

Thank you for this opportunity for input of the new building and future one.

I would like to see the lab take a leadership role in the nonproliferation of nuclear weapons and wastes. We do not need ANY new pits or weapons. We have plenty of old ones and high level intelligence can create ways of utilizing and revamping what we hare stockpiled already.

In short, (I know you have been reading lots):

Less is best. *273-1*

- new pits
- generating all sorts of waste
- re potential for contamination of environment, including and especially water.
- re weapons

Increasing responsibility, locally and globally manifested, are what is needed. Thoughts and actions.

Thank you for this opportunity for input and for sending a delegation to Taos for an interaction and opportunity for dialog.

Sincerely,

Mary J. Whiteman

273-1 NNSA notes the commentor's opposition to nuclear pits and nuclear weapons. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information. The current CMR does support nonproliferation programs, as would the proposed CMRR-NF.

Decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

There are established programs at LANL that address radioactive discharges. LANL has established Pollution Plans that require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices. See Section 2.5, Cleanup and Waste Management, of this CRD for more information on cleanup of past contamination.

Commentor No. 274: Linda Trageser

From: Shakura [lshakura@aol.com]
Sent: Saturday, July 02, 2011 10:11 AM
To: NEPALASO@doeal.gov
Subject: oppose expanding plutonium projects at LANL that use our precious water

New Mexico, entering a 60 year drought, can not afford to give millions of gallons of ground water to research or bomb manufacturing.

What good are bombs to anyone if we don't have water to live? *274-1*

In addition, New Mexico is not safe from earthquakes or uncontrollable fires, the latter which will increase if the ground water is being used. *274-2*

Climate change and global warming is real. Put your energy into solving these serious problems before spending money to cause more problems. *274-3*

Thank you,

LInda Trageser
Santa Fe

274-1 NNSA notes the commentor's position on water resources. Based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

274-2 The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

274-3 NNSA notes the commentor's statement on funding of climate change and global warming problems. Funding decisions regarding Federal programs and activities (for example, global warming) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*.

Commentor No. 275: Kathy Smith

From: kathy smith [kmsnm1@gmail.com]
Sent: Saturday, July 02, 2011 2:16 PM
To: NEPALASO@doeal.gov
Subject: comment on CMRR

Why is the government pushing the CMRR Nuclear Facility project in such a hurried manner? The supplemental EIS must be retracted and the public comment period must be extended. The Las Conchas Fire has woken us up. We must now stop the maniacal plan to build the plutonium bomb factory at Los Alamos. *275-1*

Kathy Smith
Santa Fe, NM

275-1 NNSA notes the commentor's concerns regarding the publishing of the *CMRR-NF SEIS* and the public comment period. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period. NNSA decided to extend the public comment period by 15 days through June 28, 2011, and to hold an additional public hearing on Monday, May 23, 2011, in Albuquerque, New Mexico. Additionally, in response to the Las Conchas fire, which affected the Los Alamos community, NNSA extended the public comment period to July 5, 2011. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

NNSA also notes the commentor's opposition to the building of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 276: Lynn Pussic

From: Lynn Pussic [pagelayout@uninets.net]
Sent: Saturday, July 02, 2011 3:01 PM
To: NEPALASO@doeal.gov
Subject: Oppose CMRR Nuclear Facility

I am strongly opposed to the CMRR Nuclear Facility at Los Alamos National Lab, nuclear weapons and power plants are destroying people's lives!!! Resources should be used for alternative energy sources and peace work. ***276-1***

Sincerely,

Lynn Pussic
Troy, ME

276-1 NNSA notes the commentor's opposition to the building of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD. Funding decisions regarding major Federal programs (for example, renewable energy) are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*.

Commentor No. 277: Suzanne Sheridan

From: Suzanne Sheridan [photogo@optonline.net]
Sent: Saturday, July 02, 2011 3:13 PM
To: NEPALASO@doeal.gov
Subject: We the PEOPLE oppose the CMRR Nuclear Facility Project .. are you crazy ??? Don't you love our planet and the people on it

277-1

Do you love anything but money ?? a Plutonium Bob Factory at Los Alamos... it does not get more insane than this.

We are American people who love this country, this land and its people, the air we breathe and mother nature.

Why would you think up an idea so dangerous it is symptomatic of a craziness that defies words.

This has not been thought through... Nature through LAS CONCHAS fires is trying to attempt to show us that this idea is so crazy given the propensity for fires in the area.. even if you did not have barrels of Poison in the canyons.

Who thought that this idea was a good one? Those are the people who should be institutionalized for being crazy so the rest of us can live. THere is no where else for us to go but this earth... why not take care of it and the rest of us when there are so many worthy alternatives to death and the use of plutonium. Just because you don't know what else to do with it.

That should have been thought through way before now... and not even a 2nd grader would think this was a good idea.

Why is the government pushing the CMRR Nuclear Facility project in such a hurried manner?

The supplemental EIS must be retracted and the public comment period must be extended.

The Las Conchas Fire has woken us up. We must now stop the maniacal plan to build the plutonium bomb factory at Los Alamos.

Suzanne Sheridan
Sheridan Photography
277A North Avenue
Carriage House
Westport CT 06880-1325
xxx-xxx-xxxx
photogo@optonline.net
Currently Offering Internships

277-1 NNSA notes the commentor's opposition to the building of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

NNSA notes the commentor's concerns regarding the publishing of the *CMRR-NF SEIS* and the public comment period. The CMRR Project was first analyzed in the 2003 *CMRR EIS* (DOE/EIS-0350). As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period. NNSA decided to extend the public comment period by 15 days through June 28, 2011, and to hold an additional public hearing on Monday, May 23, 2011, in Albuquerque, New Mexico. Additionally, in response to the Las Conchas fire, which affected the Los Alamos community, NNSA extended the public comment period to July, 2011. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, health care and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are

Commentor No. 277 (cont'd): Suzanne Sheridan

constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 278: Arifa Goodman

From: goodkaz@newmexico.com
Sent: Saturday, July 02, 2011 3:41 PM
To: NEPALASO@doeal.gov
Subject: Opposing the CMRR Nuclear Facility project

In the light of the devastating fires that continually threaten LANL; in the light of recent scientific evidence for greater seismic activity in the Los Alamos area than initially believed; in the light of continued drought for the area that makes the estimated 16 million gallons of water needed annually for this project untenable; in the light of the real needs of the planet for sustainable technologies aimed at bettering conditions on the planet, it is foolhardy at best but more accurately completely insane to build this plutonium enrichment facility at LANL whose only purpose is nuclear bomb production. Please put our tax dollars to beneficial use: like spearheading an energy revolution into sustainable, non-polluting technologies. This is what is needed now, not more weapons of mass destruction. ***278-1***

Thank you for your kind consideration of this comment.

Sincerely,
Arifa Goodman
PO Box 303
San Cristobal, NM 87564

278-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission, (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that

Commentor No. 278 (cont'd): Arifa Goodman

are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Funding decisions regarding major Federal programs (for example, health care and energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*.

Commentor No. 279: Mary Saunders

From: Mary Saunders [swirlingtheuniverse@gmail.com]
Sent: Saturday, July 02, 2011 3:52 PM
To: NEPALASO@doeal.gov
Subject: Nuclear activity at Los Alamos

To NEPALASO:

I support reparations for the local tribes who have been affected by nuclear activity at the Lab.

Keeping these radioactive substances safe is impossible. Please move to lessen the risks. *279-1*

Thank you for your attention to this matter,

Mary Saunders
Oregon

279-1 NNSA notes the commentor's concerns regarding reparations; however, the commentor's concerns are not within the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. The analysis includes the potential impacts from severe accidents at the CMRR-NF, including possible fires.

Commentor No. 280: Sharyn Scull

From: Rodenham@aol.com
Sent: Saturday, July 02, 2011 4:18 PM
To: NEPALASO@doeal.gov
Subject: We oppose ther CMRR project at Los Alamos

The proposed Los Alamos CMRR project would cost taxpayers billions on an unsafe project, one that will require far too much water in an area experiencing deepening droughts, place more plutonium in an area beset by wildfires, and more. In addition, seismic risks need further assessment, as do construction methods in the ash layers of the area. *280-1*

Please do not let this project go forward.

Thanks for your attention to my comments,

Sharyn Scull
902 Birdie Way St Augustine, FL 32080

280-1 NNSA acknowledges the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Funding decisions regarding major Federal programs (for example, health care and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF -SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

In regards to the 'safety' of the project, NNSA must comply with laws and regulations pertaining to the protection of human health and the environment. In addition, DOE has its own orders and directives that must be implemented to protect human health and the environment. The potential impacts of the proposed project are presented in Chapter 4 of the SEIS.

As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the

Commentor No. 280 (cont'd): Sharyn Scull

proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 281: John Brewster

From: John [jbrewster@uninet.net]
Sent: Saturday, July 02, 2011 4:56 PM
To: NEPALASO@doeal.gov
Subject: NO MORE PLUTONIUM!!!

How can these (expletive deleted) even think about concentrating ever increasing piles of these 'underworld poisons' and weapons unless they are absolutely SICK IN THE HEAD!!!!!! *281-1*

281-1 Comment noted.

Commentor No. 282: Elin Defrin

From: Elin Defrin [elindefrin@optonline.net]
Sent: Saturday, July 02, 2011 5:33 PM
To: NEPALASO@doeal.gov
Subject: NO PLUTONIJUM

Please don't do this. *282-1*

282-1 NNSA notes the commentor's opposition the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 283: J.A. "Avery" Wright

From: J.A. "Avery" Wright [jawman@gmail.com]
Sent: Saturday, July 02, 2011 6:06 PM
To: NEPALASO@doeal.gov
Subject: I'm an NM citizen opposed to nuclear facilities.

Hello!

Please register my opposition to nuclear facilities here in NM.

Any existing ones ought to be dismantled A.S.A.P., I.M.H.O. *283-1*

--Avery

283-1 NNSA notes the commentor's opposition to nuclear facilities. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 284: Judith Niederquell

From: Judith Stone [judithstone40@yahoo.com]
Sent: Saturday, July 02, 2011 6:12 PM
To: NEPALASO@doeal.gov
Subject: Increased plutonium bomb manufacturing

Dear Sirs (As I know Men are the only ones who would have what they think is this brillant idea),

Thankfully it has come to my attention of your intention to increase plutonium bomb manufacturing at Las Alamos regardless of whether or not you destroy native sacred sites, native history, reside on a fault line or even bother to use a current and updated EIS. Seems you are hell bent on doing this regardless of the fire danger, regardless of the governments own reports that the fire department is unable to handle any type of fire at Las Alamos, regardless of areas in Las Alamos threatened by the current blazes, because I am writing to protest this ill thought of concept and demand it stops immediately.

You have no business decidng that my children's future isn't viable from the nuclear accident you will surely have-you are already demonstrating your lack of thoroughness and sloppiness by way you are trying to gain expansion of plutonium bomb manufacturing. I suppose Japan wasn't enough to make you stop and ask the question ...what if? We are assured time and again that this question is asked and well planned out; until a disaster occurs "that wasn't though of." We also have been shown time and again that companies who rush get burned-BP comes to mind.

284-1

The earth is taking back what she needs to take back and will continue to do so. She is already spitting up the toxic wastes you have buried within her. They burn her so she is giving them back and you are aware of this but don't care. At the same breath, you seriously ask me to help you (give you tax money) to destroy my planet? No, I won't do that and more importantly won't allow you to either. I am taking a stand and it is for my planet, for my human race, for my country.

Finally, I must ask the obvious question; how many plutonium bombs do you need to destroy the planet? You seriously don't have them stock piled yet? How many times are you planning on bombing once an area is gone? Are you going to go back to decimated area and bomb some more because you have to use them all?

I am unwilling to let you gamble my future, my children's futre, my grandchildren's future because you just need to make more bombs. How many programs that are proposed for cuts would be saved by diverting funds into them from this? I intend to ask my Colorado representatives the same question.

Sincerely,

Judith Niederquell

284-1 NNSA acknowledges the commentor's concerns about saving our planet and protecting the environment and our people.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Chapter 4 of the *CMRR-NF SEIS* provides the environmental impacts analysis, which evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area. Resource areas evaluated include land use and visual resources, site infrastructure, air quality and noise, geology and soils, surface-water and groundwater quality, ecological resources, cultural and paleontological resources (including the potential impact to native sites), socioeconomics, human health, environmental justice, waste management and pollution prevention, and transportation and traffic.

During the public comment period on the *Draft CMRR-NF SEIS*, many commentors expressed the position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 284 (cont'd): Judith Niederquell

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL is noted. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

In summary, NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 285: Annie Degen

From: annie degen [laanniemala@yahoo.com]
Sent: Saturday, July 02, 2011 6:14 PM
To: NEPALASO@doeal.gov
Subject: new weapons factory at l.a. n.m.

NO NO NO NO NO NO

THIS IS NOT HELPING THE EARTH OR HER PEOPLES.

ARE HUMANS INSANEFOULING THEIR NESTAND THAT OF THE NEXT GENERATIONS FOR MILLIONS OF YEARS?? ***285-1***

ANNIE

285-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 286: Therese

From: Therese [giggle@gigglingsprings.com]
Sent: Saturday, July 02, 2011 6:46 PM
To: NEPALASO@doeal.gov
Subject: CMRR Project Comment

Hello,

I just read an article on this project to make plutonium weapons at LANL. I had not heard anything about this, why is this not in the news more?

My comment is that I think it is a very bad idea. I am absolutely totally 100% against this and Am hoping that NM representatives, governor, and lab employees and officials reconsider this idea. There are so many things your amazing brains could be used for. Destructive materials are a waste of your intelligence. Use your amazing resources there for GOOD, not evil! You could do so much to further clean, safe energy and technology---and THIS is what you decide on? This is what you want to use the brightest people in our country for? I don't feel there has been enough research into the seismic consequences of this either. LANL is near a volcano that is active underground at this time, and its on earthquake fault lines. Making things there stable for a 7.0 earthquake is inadequate and dangerous to everyone in the area, maybe even in the county. For God's sake, look at what is happening in Japan due to radioactive materials...and I figure we are not getting all the information on that either. Please re-consider your plan. It's a bad one. ***286-1***

Thank you for reading my comment,

Therese

A local resident

286-1 NNSA notes the commentor's opposition to pit production and the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Seismic issues are addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils

Commentor No. 286 (cont'd): Therese

sections of Chapter 3 and 4 (Sections 3.5.1 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). A volcanic eruption during the life of the CMRR-NF is an unlikely event.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant require a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 287: Marie Fontana

From: Marie Fontana [ricketyr@sbcglobal.net]
Sent: Saturday, July 02, 2011 7:21 PM
To: NEPALASO@doeal.gov
Subject: I say No to the CMRR plutonium bomb facility

Please use the 6 billion dollars to restore the lands and livlihoods of the people suffering from the fires. *287-1*

Marie Fontana

287-1 Comment noted.

Commentor No. 288: Lisa Cohen

From: parkslopedoula@aol.com
Sent: Saturday, July 02, 2011 8:15 PM
To: nepalaso@doeal.gov
Subject: Toxic Dumping and Fires in NM

"Las Conchas Fire Woke Us Up—Let Us Now Stop The Plutonium Bomb Factory!"

This is unconscionable! How can you let them get away with poisoning not only the land, not only our people, but people and animals all over the world. Someone must take responsibility for this mess! And prevent more pollution from happening! It is the responsibility, and the sacred mission of the government to prevent this and make those responsible pay for the clean up. *288-1*

Respectfully,

Lisa Cohen

288-1 NNSA notes the commentor's opposition the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1 of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 289: Mercedes Lackey

From: Mercedes Lackey [helloelsie@gmail.com]
Sent: Saturday, July 02, 2011 8:31 PM
To: NEPALASO@doeal.gov
Subject: I oppose the CMRR Nuclear Facility project

1) I oppose the construction of this facility on the grounds that the fires that have already closed the Los Alamos facility prove that it is unsafe to build this facility in fire country. The fires have already overrun many areas of the Los Alamos labs and closed them. It would be insane to build a plutonium-handling facility in fire country. ***289-1***

2) I oppose the construction of this facility on the grounds that this area is geologically unstable. No good assessment of earthquake potential has been done, yet the proposed site is right on top of a caldera. ***289-2***

3) I oppose the construction of this facility on the grounds that there is not enough water now for the population of the area, yet it is proposed that millions of gallons of water be virtually stolen from the existing population in order to meet the needs of this facility. Where is the population going to get its water from when it is stolen? Where is the water going to come from to serve existing agricultural and population needs? ***289-3***

5) I oppose the construction of this facility on the grounds that the existing stockpile of nuclear weapons is more than sufficient. No new nuclear weapons need to be created, when the stockpile that exists is sufficient to rend the entire planet uninhabitable three times over. ***289-4***

6) I oppose the construction of this facility on the grounds that, given the austerity measures being demanded, it is time to cut back on military spending. When people are dying of treatable illnesses, going hungry, going homeless, and all these is justified in the name of "austerity measures" it is more than time for the military to stop spending money like it was nothing. ***289-5***

Sincerely

Mercedes Lackey
16525 E 470 Rd
Claremore OK 74017

289-1 NNSA notes the commentor's opposition the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

289-2 Section 2.6, Seismic and Geologic Concerns, of this CRD addresses the commentor's concerns about seismic hazard.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic

Commentor No. 289 (cont'd): Mercedes Lackey

hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*).

289-3 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

289-4 A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 289 (cont'd): Mercedes Lackey

289-5 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense, education, healthcare, and housing) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 290: Iris Gersh

From: Iris Gersh [igersh@hotmail.com]
Sent: Saturday, July 02, 2011 8:53 PM
To: nepalaso@doeal.gov
Subject: I OPPOSE

290-1 the CMRR Nuclear Facility project. I also suggest strongly that the 20000 50-gallon drums of plutonium be stored somewhere else than under tents.

Las Conchas fire has opened our eyes to the dangers of nuclear products, and I appreciate your reading the public's comments past the June 28th deadline.

Sincerely,

Iris Gersh

290-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. These domes store transuranic waste and not plutonium materials. Any plutonium materials at LANL is required to be stored in very secure locations.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 291: Molly Brown

From: Molly Brown [mollyeco@sbcglobal.net]
Sent: Saturday, July 02, 2011 9:19 PM
To: NEPALASO@doeal.gov
Subject: Stop the Plutonium Bomb facility at Los Alamos

There are too many risks for safety--fire because of drought brought on by global climate change. It isn't going to go away! It is only going to get worse. Los Alamos needs to commit its sizable brain power to global climate change and safe and non-toxic renewable energy (which means non-nuclear). Don't put the public at risk and spend our taxpayer money to create weapons of mass destruction. Wake up!!!! ***291-1***

291-1 NNSA notes the commentor's opposition to the CMRR-NF project and to nuclear power. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS,* forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 292: Lia Bello

From: lia bello [bello@kitcarson.net]
Sent: Saturday, July 02, 2011 9:43 PM
To: NEPALASO@doeal.gov
Subject: No Nuclear

PLEASE stop any plans to create nuclear weapons in New Mexico! *292-1*

Lia Bello FNP, CCH
3590 Via Brisa Dr. Santa Fe, NM 87507
xxx-xxx-xxxx
www.homeopathicare.org

292-1 NNSA notes the commentor's opposition to the CMRR-NF project and the creation of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 293: Steve Roddy

From: Steve Roddy [sidingwen@yahoo.com]
Sent: Saturday, July 02, 2011 10:33 PM
To: NEPALASO@doeal.gov
Subject: No to the CMRR Proect at Los alamos

I oppose construction of the proposed nuclear weapons production facility at Los Alamos. Tie current massive fire there has demonstrated how vulnerable this area is to a catastrophic accident. The government must not put the lives and health of countless people, in NM and neighboring states.

Stop this insane idea! We need fewer nuclear weapons not even more of them! ***293-1***

Sincerely,

Steve Roddy
San Francisco

iPad????

293-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 294: Persephone Maywald

From: Persephone Maywald [persephone@diamondsoul.com.au]
Sent: Saturday, July 02, 2011 11:06 PM
To: NEPALASO@doeal.gov
Subject: Opposed to bomb production site

I wish to be recorded as totally opposed to the building of a plutonium bomb production site at Los Alamos. *294-1*

thanks, Persephone Maywald
120 Village Square, Orinda CA 94563

294-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 295: Dianne Lindsay

From: Dianne and Cordia [cdwood@cybermesa.com]
Sent: Sunday, July 03, 2011 1:54 AM
To: NEPALASO@doeal.gov
Subject: LANL proposed facility

Dear Mr John Tegtmeir,

I think we are not using good reasoning to continue with nuclear weapons development or for that matter, any continued development of nuclear energy. First Nations Americans have spoken out against trying to harness nuclear energy and we have not listened. The scope of destruction - death, disease, disruption - is not worth it. I oppose the plutonium pit proposal at LANL or at any other facility. ***295-1***

Thank you Dianne Lindsay

Las Vegas, NM

295-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 296: Natalie Charles

From: Natalie Charles [ncharles@maine.rr.com]
Sent: Sunday, July 03, 2011 8:45 AM
To: NEPALASO@doeal.gov
Subject: CMRR Nuclear Facility project

I am vehemently opposed to building a bomb factory at Los Alamos!!! ***296-1***

Natalie Charles
Maine

296-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 297: Ronnie Ortiz

From: Ronnie Lopez [ronnieois@hotmail.com]
Sent: Sunday, July 03, 2011 9:24 AM
To: nepalaso@doeal.gov; jtegtmeier@doeal.gov; rsnyder@doeal.gov; ewithers@doeal.gov; carol.borgstrom@hq.doe.gov; jonathan_epstein@bingaman.senate.gov; matthew_padilla@tomudall.senate.gov

Hello, I'd say buenas dias to you, but it is far from being good.

As to the proposed facility, CMRR Nuclear Facility, simply: NO! HALT!

LANL and subsequent sites should and must clean their sites before anything else is proceeded with - anything at all. If LANL and the government continues with anything other than cleaning up every and all places such as Acid Canyon, it is unpatriotic and defiles our human existence.

What the government has done to our land, air and water since the time of the origination of the Manhattan Project and it's on-going similar projects / sites is nothing short of genocide. Our people will no longer stand by while our government and it's factions poison us with little regard. We're neither stupid nor lemmings. Our earth, our home, has been desecrated for far too long at our expense and it must stop immediately. We do not want nuclear anything in New Mexico at all. *297-1*

Your LANL house is infested, walls crumble, there are fires hazards, your dishes are dirty, things are rotting in storage, and you haven't thrown the trash, much less wiped your arse.

Viva la revolucion!

Ronnie Ortiz

297-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 298: Marc Choyt

From: Marc Choyt [reflective@cybermesa.com]
Sent: Sunday, July 03, 2011 10:00 AM
To: NEPALASO@doeal.gov
Subject: Proposed storage facility

July 3, 2011

To Whom It May Concern:

I strongly oppose the building of a nuclear storage facility in Los Alamos. Given the current fire and the potential for earthquakes, the containment of plutonium in the new structure represents a threat to all surrounding communities. The recent events in Japan also demonstrate that there is no failsafe. *298-1*

Marc Choyt
912 Baca St.
Santa Fe, NM 87505

298-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Section 2.6, Seismic and Geologic Concerns, of this CRD addresses the commentor's concerns about the potential for earthquakes. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10,

Commentor No. 298 (cont'd): Marc Choyt

4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 299: Dicron Meneshian

From: Dicron Gordon Meneshian [dicron@hotmail.com]
Sent: Sunday, July 03, 2011 11:13 AM
To: nepalaso@doeal.gov
Subject: Please Do Not Build a Plutonium Factory in Fire Country

To whom it may concern,

Even though I am a resident of the state of Connecticut, I am urging you not to build a plutonium factory in fire country.

We live a on a very small planet. Everything we do on planet Earth is connected to everything we have share and enjoy on planet Earth. *299-1*

The repercussions of your actions have effects around the world.

yours,

Dicron Meneshian
Riverside, CT 06878

299-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF, nor would plutonium production. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 300: Mary Ross

From: Mary Ross [mary.ross1@myfairpoint.net]
Sent: Sunday, July 03, 2011 12:21 PM
To: NEPALASO@doeal.gov
Subject: Los Alamos Lab CMMR final phase

I adamantly oppose the construction of a new radiological facility at Los Alamos Nuclear laboratory with the intent to increase plutonium production. The facility is already a liability, not an asset, to the American people and the global community. ***300-1***

The fires currently burning are proof that we cannot continue to promote nuclear technology and assume that human error and environmental influences will not endanger the health of the planet and its inhabitants forevermore. ***300-2***

Weapons and warfare are not keeping us safe. They are making us more vulnerable and creating more enemies. It is time that we are no longer dominated by those with an assault oriented strategy and we focus on restoring the health of our own nation. The assault oriented perspective has run rampant and unchecked for far too long and has endangered the United States and destabilized our relations globally. Enough.

Mary Ross

300-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF, nor would plutonium production. Refer to Section 2.4, CMR Mission, of this CRD for more information.

300-2 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 301: Peter O. Childs

From: Peter & Sharron Childs [poc@Asis.Com]
Sent: Sunday, July 03, 2011 12:29 PM
To: NEPALASO@doeal.gov

Sometimes people get sick and are unable to hear the warnings others try to give them about their behavior. Tragedy can result. But I doubt that you can hear what I'm trying to say to you. I fully expect you to blithely continue with plans for the CMRR Nuclear *301-1*

Facility Project. God help us. Sincerely, Peter O. Childs

301-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 302: Joy Kincaid

From: Joy Kincaid [agelessturtle@gmail.com]
Sent: Sunday, July 03, 2011 2:05 PM
To: NEPALASO@doeal.gov
Subject: Fires and Plutonium Bomb Factory

The fires should be a wake-up call to you that we can no longer continue this insanity!!!! What you do is for money, greed and control , not for the good of our precious Earth, her resources and her people.

Stop the destruction and help us to leave a planet behind that will support all peoples (including your family).

Joy

302-1

302-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 303: Jo Ann B. Fineman, MD

From: JABFineman@aol.com
Sent: Sunday, July 03, 2011 3:00 PM
To: NEPALASO@doeal.gov
Subject: oppose CMRR

I write to oppose this project strongly--I am a psychiatrist/psychoanalyst in New Mexico--and I am aware of the arguments -pro and con--for this project; perhaps not in your lifetime or mine will the nuclear threat overwhelm life on this planet--but certainly at some point it will, and we all will have the responsibility for life extinction. *303-1*

Jo Ann B/. Fineman MD

303-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 304: Karen Husemeyer

From: Karen Boerboom [t33air@gmail.com]
Sent: Sunday, July 03, 2011 3:39 PM
To: NEPALASO@doeal.gov
Subject:

Plans to increase "war materials" at your location in New Mexico, is it really warranted? If not, I am opposed to what you are doing there. If it is warranted, would you please send me your reasoning? ***304-1***

Karen Husemeyer

304-1 NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decision regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility.

Commentor No. 305: Margie Borchers

From: marguerite Borchers [margieborchers@gmail.com]
Sent: Sunday, July 03, 2011 5:15 PM
To: NEPALASO@doeal.gov
Subject: stop the insanity!

How many nuclear bombs does one country need? The Earth has become a prison from which there is no escape except total destruction. ***305-1***

Margie Borchers
PO Box 2004
Battle Ground, WA 98604

305-1 NNSA acknowledges that there is substantial opposition to the development of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 306: Charlotte Talberth

From: Charlotte Talberth [char@cybermesa.com]
Sent: Sunday, July 03, 2011 6:24 PM
To: NEPALASO@doeal.gov
Subject: Comment

I am opposed to the CMRR Nuclear Facilities Project. It seems dangerous and reckless for us as a country to spend more money going down the nuclear track. Also as a resident of Santa Fe, I find the case made by watchdog groups to be compelling, namely that the labs in general are a health and safety risk to ourselves. ***306-1***

Charlotte Talberth, Santa Fe

306-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Chapter 4, Sections 4.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 307: Lisanne Cole

From: lisanne [giasound@yahoo.com]
Sent: Sunday, July 03, 2011 6:44 PM
To: NEPALASO@doeal.gov
Subject: CMRR nuclear facility project

I am writing to oppose the CMRR nuclear facility project .

I live in Santa Fe and we are just going through the biggest fire in our state history near Los Alomos

We must start to live more with the land if any of us and nature is to survive , the idea of building new bombs to blow people animals and the planet up to me is INSANE!! you must consider what you are doing and thinking of , for none of us will have a future.

sincerely Lisanne Cole

307-1

307-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the CMRR-NF SEIS, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 308: Barbara Larcom

From: Barbara Larcom [barbara.larcom@gmail.com]
Sent: Sunday, July 03, 2011 10:29 PM
To: NEPALASO@doeal.gov
Subject: Stop the Building of a Plutonium Bomb Factory in Fire Country

I am submitting my comments about the proposed plutonium bomb factory at the Los Alamos National Laboratory (LANL). I am TOTALLY and UTTERLY OPPOSED to this idea. It strikes me as nothing less than insane that it is even being considered.

The area has been described as "between a super volcano - Valles Caldera to the west and the Rio Grande River, our main water source to the east, on an active seismic zone, in a forested wildfire habitat." (Joni Arends, executive director of Concerned Citizens for Nuclear Safety) ***308-1***

You got lucky this time that the wildfire didn't reach the laboratory. What makes you think you'll always be so lucky, when it comes to future wildfires in the area? And what about seismic activity? Why would you even consider endangering the lives of the human beings and wildlife in the area? Why would you consider destroying an important water source, the Rio Grande River? ***308-2***

In addition, the proposal shows no respect for the desires of the Native Americans like the Pueblo who have lived in the area for many centuries. They have expressed their opposition to the proposed bomb factory. ***308-3***

Finally, why is a bomb factory being proposed at all? There are so many GOOD ways we could spend the $6 billion that this project would cost. Our country and its people need jobs, education, healthcare – and instead the proposal is to build a BOMB FACTORY for the purpose of DESTROYING THE EARTH? ***308-4***

Barbara Larcom
2743 Maryland Avenue
Baltimore, MD 21218

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"A nation that continues year after year to spend more money on military defense than on programs of social uplift is approaching spiritual death."

"Darkness cannot drive out darkness; only light can do that. Hate cannot drive out hate; only love can do that....The chain reaction of evil--hate begetting hate, wars producing more wars--must be broken, or we shall be plunged into the dark abyss of annihilation."

Martin Luther King, Jr.

308-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

308-2 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the CMRR-NF SEIS, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The impacts analysis in the SEIS indicates that there would be minimal impacts on humans and the environment from normal operations under any of the alternatives. The analysis indicates that the risk of environmental contamination is limited to extremely unlikely accident events. There would be essentially no impact on the Rio Grande; under all three alternatives, there would be no operational discharges dirctly to the environment. All radioactive liquids would

Commentor No. 308 (cont'd): Barbara Larcom

be transferred to RLWTF. At RLWTF, the liquids would be treated to meet discharge criteria and released through a permitted outfall or to a zero liquid discharge facility. Other liquids would be routed to the Sanitary Wastewater Systems Plant, where they would be treated prior to discharge through a permitted outfall.

308-3 Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

308-4 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 309: Barbara Higgins

From: NEPALASO@doeal.gov on behalf of Barbara Higgins [bach01@gmail.com]
Sent: Sunday, July 03, 2011 11:34 PM
To: NEPALASO@doeal.gov
Subject: CMRR

I oppose the CMRR Nuclear Facility Project in Los Alamos. You do not need to continue this cold-war era mentality. Have some Vision!!! Put your brains and research to work finding a way toward a resource-based economy not toward supporting the war machine, the raping of the earth and the lack of respect for all life!

I am a 32 year resident of Santa Fe and am concerned for the welfare of all of us who live in New Mexico. You are endangering our health and our lives, if you haven't destroyed them already. Hopefully this huge fire was a wake up call! Change course before it is too late! PLEASE!! *309-1*

Barbara Higgins

309-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. See Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 310: Tom Tarter, Jr.

From: Tom Tarter [rostatler@logonisp.com]
Sent: Monday, July 04, 2011 6:45 AM
To: NEPALASO@doeal.gov
Subject: FYI

At 18, I made it through WWII. Now At 87, the state I live in, New Mexico, and my country is trying to kill me. Pretty stupid and ironic. *310-1*

-- Tom Tarter, Jr., Roswell.

310-1 Comment noted.

Commentor No. 311: Abbe Anderson

From: Abbe Anderson [abbe@abbeanderson.com]
Sent: Monday, July 04, 2011 9:48 AM
To: NEPALASO@doeal.gov
Subject: please oppose the CMRR project

Hello. Due to the wildfires, more plutonium storage is suicidal. Please redirect the funds into something that can support the people of this beautiful state. *311-1*

Thank you.

311-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 312: Dave McCoy, Director
Citizen Action

Comments on the National Nuclear Security Administration (NNSA)
Supplemental Environmental Impact Analysis (SEIS) for the
(CMRR)
Citizen Action New Mexico

I. The SEIS Fails to Consider Requirements of International Law.

312-1

By seeking to proceed with the construction of nuclear weapons at the LANL CMRR and the modernization of nuclear weapons, the United States is violating the Nuclear Nonproliferation Treaty (NPT). The US is acting contrary to the Advisory Opinion of July 8, 1996 of the International Court of Justice (ICJ) regarding the Legality of the Threat or Use of Nuclear Weapons. Both Article VI of the NPT and the Advisory Opinion contain an obligation to negotiate in good-faith for "general and complete nuclear disarmament."

The required cessation of the nuclear arms race applies to all nations, but especially to the United States, Britain, France, Russia, and China, the five nuclear powers acknowledged at the outset of the treaty.

The quadrupled production of nuclear bomb cores and the modernization of nuclear weapons at the LANL CMRR and other national laboratories violates the GOOD-FAITH NEGOTIATION requirement for disarmament. By continuing construction of the nuclear weapons infrastructure, the US is acting contrary to the principle of the long term durability of disarmament measures and disarmament that was approved by the NPT Review Conference in 2000. The code words for progams of nuclear weapons expansion have included: "advanced concepts" research, the "reliable replacement warhead," and "a more robust nuclear weapon."

The continued expansion of nuclear weapons development is evidenced by Sandia National Laboratories ongoing subcritical testing of nuclear weapons through the use of the Z-Machine.

The actions of the President, the Congress and the national laboratories is to build more weapons of mass destruction that will have long term planetary environmental consequences. Prouction or use of nuclear weapons is in opposition to humanitarian concerns expressed by the International Court of Justice. In consideration of the violations of the principles of humanitarian law, the Court stated some of the following:

> 36. [I]t is imperative for the Court to take account of the unique characteristics of nuclear weapons, and in particular their destructive capacity, their capacity to cause untold human suffering, and their ability to cause damage to generations to come.
>
> 42. The proportionality principle may thus not in itself exclude the use of nuclear weapons in self-defence in al1 circumstances. But at the same time, a use of force that is proportionate under the law of self-defence, must, in order to be lawful, also meet the requirements of the law applicable in armed conflict which comprise in particular the principles and rules of humanitarian law.
>
> 78. The cardinal principles contained in the texts constituting the fabric of humanitarian law are the following. The first is aimed at the protection

312-1 NNSA acknowledges the commentors' concerns about treaty compliance, international law, pit production, and the proliferation of nuclear weapons. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information. Analysis of the environmental impacts associated with the use of nuclear weapons is beyond the scope of this SEIS.

As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 312 (cont'd): Dave McCoy, Director Citizen Action

of the civilian population and civilian objects and establishes the distinction between combatants and non-combatants; States must never make civilians the object of attack and must consequently never use weapons that are incapable of distinguishing between civilian and military targets. According to the second principle, it is prohibited to cause unnecessary suffering to combatants: it is accordingly prohibited to use weapons causing them such harm or uselessly aggravating their suffering.
In application of that second principle, States do not have unlimited freedom of choice of means in the weapons they use.
The Court would likewise refer, in relation to these principles, to the Martens Clause, which was first included in the Hague Convention II with Respect to the Laws and Customs of War on Land of 1899 and which has proved to be an effective means of addressing the rapid evolution of military technology. A modern version of that clause is to be found in Article 1, paragraph 2, of Additional Protocol 1 of 1977, which reads as follows:

> "In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience."

In conformity with the aforementioned principles, humanitarian law, at a very early stage, prohibited certain types of weapons either because of their indiscriminate effect on combatants and civilians or because of the unnecessary suffering caused to combatants, that is to Say, a harm greater than that unavoidable to achieve legitimate military objectives. If an envisaged use of weapons would not meet the requirements of humanitarian law, a threat to engage in such use would also be contrary to that law .
80. The Nuremberg International Military Tribunal had already found in 1945 that the humanitarian rules included in the Regulations annexed to the Hague Convention IV of 1907 "were recognized by al1 civilized nations and were regarded as being declaratory of the laws and customs of war" *(Trial of the Major War Criminals, 14 November 1945-1 October 1946*, Nuremberg, 1947, Vol. 1, p. 254).
86. … "In general, international humanitarian law bears on the threat or use of nuclear weapons as it does of other weapons."

Source: immoral://www.icj-cij.org/docket/files/95/7495.pdf?PHPSESSID=efe26ca87de1e6ed11fde11cc5e2fc65

The NNSA "legal justifications" for the continued production and modernization of the nuclear weapons complex at LANL reflect the mindset of a nation that espouses legal arguments for torture, used two nuclear weapons against civilian populations and invaded at least 18 other nations.

The dissenting opinion of ICJ Judge Weeramantry argues that the use of nuclear weapons produces factual consequences of such an inhumane nature as to clash with the basic principles of humanitarian law. He summarized the effects of the nuclear weapon:

312-1 cont'd

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Commentor No. 312 (cont'd): Dave McCoy, Director Citizen Action

(a) Damage to the environment and the ecosystem
(b) Damage to future generations
(c) Damage to civilian populations
(d) The nuclear winter
(e) Loss of life
(f) Medical effects of radiation
(g) Heat and blast
(h) Congenital deformities
(i) Transnational damage

The SEIS does not recognize that the CMRR project is designed for the construction of weapons of mass destruction. The above devastating environmental effects from the use of a nuclear weapon produced by LANL should be under consideration in the SEIS. To limit the environmental effects of Plutonium pit production only to workers or the surrounding communities near LANL is to remain blind to the full destructive potential of nuclear weapons on a worldwide scale.

312-1 cont'd

DOE has contaminated every national laboratory site and surrounding communities with hazardous waste and radioactivity. The US spends some $35 – 50 Billion dollars a year of taxpayer money to merely maintain the US nuclear weapons arsenal. This is a theft from every social program in the nation. Rather than funding the expansion of nuclear weapons programs and generating more waste, the 6 billion dollars that CMRR will cost should be spent on cleaning up the existing nuclear waste at LANL. 21,000,000 cu ft of nuclear and hazardous wastes are already buried at LANL in unlined pits, trenches and shaft wihtout liners.

312-2

The consequences of US actions internationally will encourage a competition of worldwide proliferation of nuclear weapons. This increases the reliance on nuclear weapons for state security policies with the increased risk of accidents and deliberate use. The US remains on hair-trigger alert status for the use of nuclear weapons against other nations. Building the CMRR will further exacerbate world tension.

President Obama's "vision" of a nuclear weapons free world is far from the reality of the actions and vast sums of money that are supporting the nuclear weapons industry.

312-1 cont'd

II. The SEIS does not meet legal requirements of the Council on Environmental Quality regulations to provide consideration of alternatives and for the resolution of siting, safety and waste issues. (10 CFR 1502).

No Safety Analysis Report for the LANL Plutonium Bomb Factory (CMRR) has yet been issued as is required to be performed at the earliest practicable point in conceptual or preliminary design.

312-3

3

312-2 NNSA notes the commentor's opinion regarding the funding priorities of the U.S. Government and concern about cleanup of wastes at LANL. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

312-3 NNSA disagrees with the commentor's opinion that the SEIS does not comply with CEQ requirements. A Preliminary Documented Safety Analysis has been developed by the project and an approved Preliminary Safety Validation Report was issued documenting the NNSA Los Alamos Site Office review of the Preliminary Documented Safety Analysis. Both documents are the appropriate level of safety analysis required at this stage in the project lifecycle.

As discussed in Section 2.2, NEPA Process, of this CRD, the *CMRR-NF SEIS* was prepared in compliance with CEQ and DOE NEPA regulations. Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the *2003 CMRR EIS* (69 FR 6967).

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level

Commentor No. 312 (cont'd): Dave McCoy, Director Citizen Action

The "need" for the CMRR and the "no-build option" are not addressed by the SEIS. The stated reason is that the policy considerations of President Obama require that the nation continue modernization of the nuclear weapons complex. There is a contradiction between the Presidential vision for a nuclear weapons free world and the expansion of the nuclear weapons complex.

The justification for CMRR production of 80 additional plutonium pits is faulty, given that there are a total of approximately 40,000 plutonium pits in storage and on missiles under US control.

Approximately 5000 of those pits are deployable as nuclear weapons. The US constructed approximately 70,000 nuclear weapons and used two of the weapons over 50 years ago. Nuclear weapons are obsolete and serve no purpose for the taxpayer. None of the US invasions of at least 18 foreign nations including Iraq and Afghanistan have required the use of nuclear weapons.

312-3 cont'd

Alternatives to the proposed action Sec. 1502.14 (d) must include the no-action no-build alternative. NNSA is incorrect in its rationale for not presenting the no-build alternative for CMRR. The National Environmental Policy Act (NEPA 1969) 42 U.S.C.A. 4321 to 4370d and the Council on Environmental Quality regulations require detailed analysis of alternatives that are considered to be the "heart" of an EIS. (§ 4332(C)(iii) and (v) and CEQ § 1502.14). The "no-build" alternative is always included as a benchmark against which the impacts of other alternatives are to be compared. NNSA cannot eliminate the no-action/no-build alternative from discussion. The fact that the no-build alternative does not meet the purpose and need of the NNSA or the President does not allow dismissal of the statutory requirement.

The SEIS offers no assurance that the CMRR can be safely constructed to protect the public and the environment. The chosen site for the CMRR location is above soft volcanic ash and is a formula for seismic disaster. This is described in greater detail below. The alternative or mitigation measure has not been considered for placing the plutonium vault and the water for the fire suppression system at another location. Workers exposure in the event of an accident has not received consideration.

312-4

Waste disposal operations are not considered in the SEIS. The Liquid Radioactive Waste Facility, essential to CMRR operations, is at the end of its operational lifetime and is not designed to withstand the large seismic event that can occur. Deactivation, decommissioning, decontamination at end of life for the CMRR are not considered in the SEIS after the proposed 50 years of operation. The amounts of hazardous and radioactive waste that will be generated and the pathway for disposal are not presented.

312-5

There is no assurance that the CMRR and the related facilities necessary for operations can comply with the requirements of DOE Orders. DOE O 420.1 and DOE G-420.1-2 require that structures, systems, and components at DOE facilities be designed and constructed to withstand the effects of natural phenomena hazards using a graded approach.

DOE must comply with the federal requirements of Title 10 Part 835 *Occupational Radiation Protection Requirements*. The requirements of DOE Order 420.1 and Guides are to meet compliance with 10 CFR 835. DOE is not incompliance with (1) *DOE G 420.1-1, Nonreactor Nuclear Safety Design Criteria and Explosive Safety Criteria Guide*

312-6

4

of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile.

312-4 This CMRR-NF SEIS presents the environmental impacts of alternatives for construction and operation of the CMRR-NF at LANL. NNSA believes that the analyses in this CMRR-NF SEIS demonstrate that the CMRR-NF can be safely constructed and operated.

Site-specific geotechnical investigations have been completed for both the Shallow Excavation Option and the Deep Excavation Option. A geotechnical report prepared for the Shallow Excavation Option provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy, which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation (Kleinfelder 2007a, 2007b). The proposed CMRR-NF would be designed and constructed in accordance with geotechnical recommendations provided in the geotechnical report (Kleinfelder 2007a). Similarly, the Deep Excavation Option would be completed in accordance with recommendations resulting from the geotechnical reports (Kleinfelder 2010a, 2010b). This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The results of this evaluation have been included in the design of the CMRR-NF, which is still under way and will continue to evolve. See Section 2.6, Seismic Concerns, of this CRD for more information.

Chapter 2, Section 2.7, of the CMRR-NF SEIS has been revised to describe alternatives that were considered but dismissed as not meeting NNSA's purpose and need. The alternative of distributing AC and MC capabilities among multiple facilities at LANL was considered, but not analyzed as a reasonable alternative. Because of the quantities of special nuclear material involved, to fully perform the AC, MC and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. RLUOB was not intended as a nuclear-qualified space to handle Hazard Category 2 or 3 levels of

Commentor No. 312 (cont'd): Dave McCoy, Director
Citizen Action

for use with DOE O 420.1 Facility Safety and (2) DOE G 420.1-2, *Guide for the Mitigation of Natural Phenomena Hazards for DOE Nuclear Facilities and NonNuclear Facilities*, along with additional requirements.

There is an established hierarchy in the set of documents that specify Natural Hazard Phenomena (NPH) requirements. In this hierarchy, 10 CFR Part 830 Nuclear Safety Management (for Nuclear Facilities only) has the highest authority followed by DOE Order 420.1 and the associated Guides DOE G 420.1-1 and DOE G 420.1-2. The four NPH standards (DOE-STDS-1020, 1021, 1022, 1023) are the last set of documents in this hierarchy.

No indication is given in the SEIS that the there is recognition or compliance with Defense Nuclear Facilities Recommendation 2004-2, *Active Confinement Systems* for radiological releases. The CMRR is a Hazard Category 2 nuclear facility that must comply with 2004-2. http://www.doeal.gov/SWEIS/OtherDocuments/591%20DNFSB%202004%20rec_2004_02.pdf Whether any such reliable confinement system could even be built to withstand the event of ground rupture at the CMRR site is not addressed in the SEIS.

312-6 cont'd

Hazard classification. The CMRR is misclassified as a Hazard Category 2 facility. A Hazard Category 2 facility is defined as a nuclear facility for which a hazard analysis shows the potential for significant onsite consequences. Hazard classifications are an "Evaluation of the consequences of unmitigated releases to classify facilities or operations into the following hazard categories." [DOE 5480.23]

The CMRR should be classified as Hazard Category 1 because of the potential for an accident affecting the surrounding communities. Maintaining 13,200 pounds of plutonium inside the facility given the seismic potential for ground rupture at the site could lead to significant offsite consequences in the event of a plutonium fire, explosion or other unforeseen natural disasters. No credit for the fire suppression system should be taken because it is located in the CMRR where the accident may occur.

• **Hazard Category 1:** Shows the potential for significant offsite consequences. DOE 5480.23 states:

> For facilities belonging to Hazard Category 1, for which very substantial limitation of potential risk must be achieved by safety design, management, and well-disciplined operation, *the Safety Analysis Review [SAR] must be particularly thorough and penetrating*. (Emphasis added).

312-7

LANL has not produced a thorough and penetrating Safety Analysis Review as demonstrated by failure to receive safety certification from the Defense Nuclear Facilities Safety Board (DNFSB).

The August 2009 Certification Report Resolution of Defense Nuclear Facilities Safety Board Concerns for the Chemistry and Metallurgy Research Replacement Project (CMRR-RPT-PM-1912, R1) shows that no safety analysis is complete for the CMRR (http://www.lanl.gov/orgs/cmrr/publicmeetings/documents/certification_laur09-06015.pdf p.3):

> "Between January 16 and March 30, 2009, the DNFSB formally transmitted five findings to NNSA in which they considered resolution a prerequisite to Congressional

312-6 cont'd

nuclear material. Thus, NNSA would not operate the building as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear materials that could be handled in the building. As a result, AC and MC operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic road closures and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls and requirements for this type of work.

The accident analysis presented in Appendix C in the *CMRR-NF SEIS* considered impacts on workers and the public from a representative set of accidents, including natural phenomena such as earthquakes. See Chapter 4, Section 4.2.10.2, Facility Accidents, and Appendix C, Evaluation of Human Health Impacts from Facility Accidents, of the *CMRR-NF SEIS* for more information.

312-5 As summarized in Section 2.5, Cleanup and Waste Management, of this CRD, the CMRR-NF and RLUOB would be designed, constructed, and operated to accommodate the projected waste volumes to be generated at the facilities. Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12 provide estimates of and disposal pathways for all waste types expected to be generated by construction and operation of the CMRR-NF under each of the alternatives. The impacts associated with transportation of radioactive and nonradioactive wastes to offsite treatment or storage facilities have been estimated for all alternatives (see Chapter 4, Sections 4.2.13, 4.3.13, and 4.4.13, of the *CMRR-NF SEIS*). It is expected that waste transportation would occur using trucks using standard types of containers (for example, drums, boxes) and shipping packages (for example, TRUPACT II).

RLWTF currently receives liquid radioactive waste generated by the CMR Building and other LANL facilities, and would receive liquid radioactive waste generated by the proposed CMRR-NF. The planned replacement for the existing

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certification: (1) CMRR Seismic Design; (2) Seismic Design of Active Confinement Ventilation Systems and Support Systems; (3) Documenting and Maintaining Preliminary Documented Safety Analysis (PDSA) Safety-Related Functions and Requirements; (4) Inadequate Identification of Safety-related Controls, Functional Requirements, and Performance Criteria; and (5) System Design Descriptions Do Not Incorporate Preliminary Documented Safety Analysis Requirements Adequately."

The SEIS claim that a Modified CMRR will be able to withstand the design basis earthquake is without scientific basis. The relationship between the LANL fault structures and to regional techtonics is not well understood and *the design basis earthquake is unknown*. The NNSA will expose the public to Fukushima-sized risks by construction of the CMRR at the highly risky seismic location of LANL.

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The CMRR does not comply with DOE O 420.1A (5/20/02) for nuclear safety, which provides as follows:
4.1.1 Nuclear Safety
4.1.1.1 General Requirements
Detailed application of these requirements shall be guided by safety analyses that establish the identification and functions of safety (safety class and safety significant) Structures, Systems, and Components (SSCs) for a facility and establish the significance to safety of functions performed by those SSCs. **Safety analyses shall consider facility hazards, natural phenomena hazards, and external man-induced hazards. Factors such as proximity to nearby facilities such as airports, pipelines, and barge traffic peculiar to the site shall also be considered. A safety analysis shall be performed at the earliest practical point in conceptual or preliminary design, so that required functional attributes of safety SSCs can be specified in the detailed design. Safety analyses shall be performed in accordance with Safety Analysis Report (SAR) guidance for safety analysis, as described in DOE guidance documents.**

4.1.1.2 Design Requirements
Nuclear facilities shall be designed with the objective of providing multiple layers of protection to prevent or mitigate the unintended release of radioactive materials to the environment. **Defense in depth shall include: siting, minimization of material at risk, the use of conservative design margins and quality assurance; the use of successive physical barriers for protection against the release of radioactivity; the provision of multiple means to ensure critical safety functions (those basic safety functions needed to control the processes, maintain them in a safe state, and to continue and mitigate radioactivity associated with the potential for accidents with significant public radiological impact)**; the use of equipment and administrative controls which restrict deviations from normal operations and provide for recovery from accidents to achieve a safe condition; means to monitor accident releases required for emergency responses; and the provision of emergency plans for minimizing the effects of an accident. **Facilities shall be sited and designed in such a manner that gives adequate protection for the health and safety of the public and for workers, including those at adjacent facilities, from the effects of potential facility accidents involving the release of radioactive materials.**

Facilities shall be designed to facilitate safe deactivation, decommissioning, and decontamination at end of life.

Facilities shall be designed to facilitate inspections, testing, maintenance,

6

RLWTF, subject to the availability of construction funding, is anticipated to be complete in the same approximate timeframe as the proposed CMRR-NF. The new facility would be designed to withstand anticipated seismic events per the latest nuclear facility safety requirements. Until the replacement facility is available, RLWTF would continue to be maintained and operated under its NNSA-approved authorization basis.

As discussed in Chapter 2, Section 2.10.2.2, DD&D of the new CMRR-NF would be considered at the end of its lifetime, designed to be 50 years. For either the 2004 CMRR-NF or the Modified CMRR-NF, impacts of DD&D of the CMRR-NF are expected to be comparable to those of DD&D of the CMR Building. Although activities involving radioactive materials that would be performed at the CMRR-NF are similar to those currently performed at the CMR Building, construction and operation of the CMRR-NF would reflect over 50 years of experience in facility design and operation and contamination control, with implementation of pollution prevention and waste minimization practices. An appropriate NEPA analysis would be conducted prior to commencing DD&D.

312-6 NNSA takes exception to the commentor's assertion that the CMRR-NF and related facilities are not being designed and constructed in accordance with nuclear safety and design, occupational radiological safety, and natural phenomena hazards regulations and DOE orders; and that DNFSB safety concerns have not been resolved. DOE Order 420.1 and its associated guides are being implemented in the safety analysis and the design of the CMRR-NF. Based on the safety analysis, safety structures, systems, and components are being designed to the required rigor in DOE Order 420.1 and DOE-STD-1021, -1021, -1022, and -1023 considering appropriate natural phenomena hazards. In 2009, NNSA received a number of safety concerns from DNFSB regarding the CMRR Project. Some of these concerns questioned the project's ability to demonstrate compliance with DOE Order 420.1. After lengthy exchanges, DNSFB, as well as NNSA, certified to Congress the technical resolution of these cited concerns. The DOE Order 420.1 concerns and the DNFSB resolution can be found in the September 4, 2009, report to Congress.

Regulations at 10 CFR Part 835 are implemented as a safety management program at LANL. 10 CFR Part 835 is used as a design basis for occupational radiation protection requirements.

The project has been reviewed against DNFSB 2004-02 and was found to be in compliance. The DNFSB report to Congress dated June 15, 2011, confirms

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repair and replacement of safety SSCs as part of an overall reliability, availability, and maintainability program. The objective is that the facility can be maintained in a safe state, including during these operations, and in keeping with the as low as reasonably achievable (ALARA) principle for occupational radiation exposure.

Facilities shall be designed to keep occupational radiation exposure within statutory limits and incorporate ALARA principles in design, including design provisions to facilitate decontamination during the operational period.

Facility process systems shall be designed to minimize the production of wastes and minimize the mixing of radioactive and non radioactive wastes. Safety SSCs, identified in accordance with this section shall, commensurate with the importance of the safety functions performed, be designed: (1) so that they can perform their safety functions when called upon to operate, and (2) under a quality assurance program that satisfies 10 CFR 830.120.

DOE is not meeting the requirements of DOE Order 5480.28 and the standards included therein to protect against natural phenomena hazards (NPH).

> It is the policy of the Department of Energy to design, construct, and operate DOE facilities so that workers, the general public, and the environment are protected from the impacts of **natural phenomena hazards** on DOE facilities. DOE NPH mitigation requirements are consistent with the safety policy and goals of DOE 5480.1B, DOE 5481.1B, the National Earthquake Hazards Reduction Program, and Executive Order 12699, for all its facilities. For nuclear facilities, DOE additionally requires that, the nuclear safety policy of DOE 5480.23 and Secretary of Energy Notice (SEN), SEN-35-91, NUCLEAR SAFETY POLICY, of 9-9-91, be met for NPH mitigation, and that cost effectiveness is considered. The goals of design, evaluation, and construction for NPH mitigation Include:
> (1) Providing for safe work places;
> (2) Protecting against property loss or damage;
> (3) Continued operation of essential facilities; and
> (4) Protecting public health, property, and the environment against exposure to hazardous materials.

LANL is not following the requirements of Executive Order 12699. EO 12699 requires that each Federal agency responsible for the design and construction of each new Federal building shall ensure that the building is designed and constructed in accord with appropriate seismic design and construction standards.

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LANL has done poor quality work in investigating the potential for seismic ground rupture at the CMRR site. No network of seismometers to gather seismic data is in place at LANL. Computer models are utilized without gathering actual hard data to make accuate models.

A. 1992. The SHB-1 borehole at TA-55 was drilled in 1992. The seismic profile from the borehole was published in Wong et al in 1995. Gardner et al LANL scientists knew from the velocity profile for Borehole SHB-1 at TA-55 that there were low shear velocities that greatly increased the seismic hazard at the TA-55 site for a plutonium processing facility. Rather than recognize the problem, LANL underestimated

312-8 cont'd

that no current open issues remain on the project's safety significant active confinement systems (DNFSB 2011b).

312-7 CMRR is appropriately categorized as a DOE Hazard Category 2 nuclear facility in accordance with DOE-STD-1027-92. The CMRR-NF hazard analysis as well as analyses in the *CMRR-NF SEIS* have verified that the facility does have the potential for significant onsite consequences but not the offsite consequences that would categorize it as a DOE Hazard Category 1 nuclear facility.

312-8 NNSA notes the commentor's concerns and technical comments regarding seismic issues related to the *Draft CMRR-NF SEIS*. In addition to the following responses, refer to Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information. Chapter 3, Section 3.5, Geology and Soils, of the CMRR-NF SEIS has been revised to improve the discussion of faulting and seismic hazards at LANL.

The comment indicates that site-specific seismic data are inadequate because studies have not been conducted. Dozens of mapping studies of the Pajarito fault system have been conducted (for example, Gardner and House 1987; Wong et al. 1995; Carter and Gardner 1995; McCalpin 1997; Lavine et al. 2003), including state-of-the-art, high-precision mapping in the vicinity of LANL. In addition, numerous paleoseismic trench investigations have been conducted at 17 sites over the past 20 years (for example, Gardner et al. 1990; Olig et al. 1996; Kelson et al. 1996; McCalpin 1998, 1999, 2005; LANL 2007). These studies clearly show that the Pajarito fault system is a series of normal slip faults that form the best studied fault system in the Rio Grande rift. Admittedly, some parts of the fault have not been as well studied as others; these tend to be those portions outside of LANL, especially where access issues are a problem (for example, the Santa Clara Canyon segment). Additional study of these areas would likely improve our understanding of the fault and could help reduce uncertainties in the inputs, but these studies are not a prerequisite to conducting a PSHA or determining design ground motions at LANL. The uncertainties in regards to fault geometry, rupture behavior, and sense of slip on the Pajarito fault system were fully recognized and addressed in the range of inputs to the PSHA. A range of fault dips was used (±15°), a component of oblique slip was considered in calculating slip rates, and two rupture models and various rupture scenarios were included in the analysis to address remaining uncertainties in the geometry and sense of slip of the Pajarito fault system. All of the data and analyses for the

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the CMRR cost to Congress even though LANL knew the initial design was incorrect and not supported by their own information.

B. From page 4-4 in the 2007 LANL PSHA Report: "Downhole velocity surveys were carried out by Redpath Geophysics, from 25 through 30 May 1992, in the four boreholes to measure VS and VP as a function of depth. The resulting velocity profiles are shown on Figures 4-3 to 4-6. Measured VS and VP values are tabulated in Figures 4-7 to 4-9 for SHB-1 to SHB-3 in addition to lithologic units. A detailed discussion of the 1992 borehole program is contained in Wong et al. (1995)."

C. Wong, I., Kelson, K., Olig, S., Kolbe, T., Hemphill-Haley, M., Bott, J., Green, R., Kanakari, H., Sawyer, J., Silva, W., Stark, C., Haraden, C., Fenton, C., Unruh, J., Gardner, J., Reneau, S., and House, L., 1995, Seismic hazard evaluation of the Los Alamos National Laboratory: unpublished final report prepared for the Los Alamos National Laboratory and the U.S. Department of Energy, 3 volumes.

1995 Study. According to the 1995 SEISMIC MARGINS ASSESSMENT OF THE PLUTONIUM PROCESSING FACILITY LOS ALAMOS NATIONAL LABORATORY by Goen and Salmon (Los Alamos National Laboratory), increased seismic shaking would be present at TA-55. http://library.lanl.gov/cgi-bin/getfile?00818722.pdf , p.1 Abstract:

> DOE Order 5480.28 [1] requires that existing structures, systems and components (SSCs) be evaluated to determine their ability to withstand the effects of natural phenomena hazards. For existing SSCS, 5480.28 requires re-evaluation when changes in the understanding of a hazard results in greater loads. Los Alamos National Laboratory (LANL) has reevaluated its seismic hazard. Results of this study indicate that seismically induced loads will be significantly greater than those for which the SSC**S** for the Plutonium Processing Facility (PF-4) at Technical Area 55 (TA-55) were designed. (Emphasis supplied).

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The Goen study was based on an assumed ground acceleration value of 0.33 g. This PF-4 building is where the Pu pits will be manufactured. PF-4 does not comply with the specifications necessary for seismic safety requirements as per the DOE O 5480.28.

This 1995 report was made before the knowledge obtained in the May 2007 URS Probabilistic Seismic Hazard Analysis and Development of Seismic Design Ground Motions at the LANL that indicated an increased acceleration value of 0.52 g. Even the .52 g acceleration is questionable and may be an underestimate because the selection of the value for Kappa used compromised data. A minimum of three boreholes were supposed to have been drilled down to the reference rock. Only one borehole was drilled. The value of the reference rock for determination of kappa is unknown because the drilling of the one deep borehole did not extend more than 741 ft bgs.

D. The 2007 Probabilistic Seismic Hazard Analysis states: " The preferred range of maximum earthquakes is from moment magnitude (M) 6.5 to 7.3." There is no data from a sitewide network of seismometers to draw that conclusion.

Pajarito fault system published in the Lewis et al. (2009) study were included or considered in the PSHA update.

In addition, the comment asserts that information from deep boreholes at TA-55 indicates that the seismic hazards are greater than previously reported. Deep geotechnical borings were drilled at TA-55 to characterize the complete geologic column down to the basement bedrock level. Three boring locations were initially identified; however, only two borings were deemed necessary to provide corroborative characterization of the deeper portions of the geologic column. The third boring was identified as an alternative and would have been drilled only if the currently planned site at TA-55 were deemed not viable. Borehole DSC-1B was drilled to a depth of 741 feet (226 meters) below ground surface, while borehole DSC-2A reached a total depth of 550 feet (168 meters) below ground surface. The geologic formations that are most relevant to TA-55 are those that would influence seismic ground response and foundation performance. Seismic ground response, as determined by these two deep seismic characterization borings, is affected by the relatively high seismic wave velocity of the basement rocks, consisting of the Cerros del Rio basalt and Tschicoma Formation dacite (both of which are relatively hard volcanic rocks), and the much lower seismic wave velocities of the overlying, softer Bandelier Tuff. From data provided by Kleinfelder (2007a), DSC-1B was the only deep borehole to penetrate into the Tschicoma Formation dacite. In addition, the presence of the relatively soft Qbt3L between two stiffer units, Qbt3U and Qbt2, is important with respect to the seismic ground response of the site (Kleinfelder 2007a:29,61). Kleinfelder (2007a) states that the sampled portion of the Cerros del Rio basalt and Tschicoma Formation dacite was highly fractured and vesicular. Fracturing and vesiculation are common features of chilled upper portions of relatively harder volcanic flows (Fink and Anderson 2000), and such features would be expected in the upper 40 to 50 feet (12 to 15 meters) of a dacite flow that is hundreds of feet thick, such as the Tschicoma Formation dacite below the proposed CMRR-NF.

In the 1995 PSHA, the peak horizontal ground acceleration (PGA) associated with an annual frequency of exceedance of 4×10^{-4} was reported to be about 0.33 *g* for TA-55. In the 2007 PSHA, the PGA at the same annual frequency of exceedance was reported to be 0.52 *g*. An increase in the slip rates on the Pajarito fault system, in addition to other factors, likely contributed to the increased seismic hazard. The 2007 and 2009 PSHAs represent the best knowledge to date on the seismic hazard at LANL, with the uncertainties appropriately incorporated.

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http://nnsa.energy.gov/sites/default/files/seis/Eval.%20of%20Faulting%20at%20the%20CMRR%20Site%202005%20LA-14170.pdf

EVALUATION OF FAULTING AT THE CHEMISTRY AND METALLURGY RESEARCH FACILITY REPLACEMENT (CMRR) SITE BASED ON EXAMINATION OF CORE FROM GEOTECHNICAL DRILLING STUDIES, TA-55, LOS ALAMOS NATIONAL LABORATORY by Alexis Lavine, Jamie Gardner, and Emily Schultz, January 2005

> Because Los Alamos National Laboratory (LANL) lies on the active western margin of the Rio Grande rift (Figure 1), seismic hazards, including the potential for seismic surface rupture, must be assessed before construction of any new facilities housing nuclear or other hazardous materials.

"Paleoseismic investigations indicate that there have been three Holocene seismic events of magnitude 6–7 on the Pajarito fault system."

The May 26, 2011 Report *Fault interaction and along-strike variation in throw in the Pajarito fault system, Rio Grande Rift, New Mexico,* Lewis, et al., describes fault interaction and rupturing with the Pajarito Fault (PF) and the Rendijas and Guaje Cyn faults. That led to PF rupture in 2 of 3 Holocene rupture with one of those faults.

312-8 cont'd

The above faults can rupture simultaneously or synchronously (in rapid sequence). Synchronous rupture can cause up to 75% more shaking than simultaneous rupture of the fault system. Although LANL has identified the possibility for synchronous rupture, LANL's analysis for the design basis earthquake is limited to consideration of the simultaneous rupture event.

DOE is not in compliance with Standard 1020-2002 because it is unable to demonstrate in the SEIS that the CMRR would be able to withstand the ground motions of the Maximum Considered Earthquake with either the shallow option or the deep excavation option.

The Department of Energy Standard 1020-2002

In 2002, DOE published a revision to its seismic siting standard, "Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities" It states:

> "This natural phenomena hazard standard...provides criteria for design of new SSCs (structures, systems and components) and for evaluation, modification, or upgrade of existing SSCs so that DOE facilities safely withstand the effects of natural phenomena hazards, such as earthquakes, extreme winds, and flooding."

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Legal Issue: The original EIS plan for the CMRR has become impossible to construct because it cannot withstand a large seismic event. Can the CMRR SEIS be used as a supplement or substitute for an EIS that can no longer be implemented?

The 2011 Supplemental EIS is inadequate to offer a meaningful analysis of environmental consequences as a justification for continuance of the CMRR project. 10 CFR 1502.9 for Draft, final, and supplemental statements provides

The results of this evaluation have been included in the design of the CMRR-NF and, as such, incorporated in the cost estimate.

The change in seismic hazard at LANL is due in large part to new evidence in the activity of the Pajarito fault system, new ground motion prediction equations, and the consideration of temporal clustering in the Pajarito fault system. Considering this new evidence, the estimate of the PGA associated with an annual frequency of exceedance changed from about 0.33 *g* in 1995 to about 0.52 *g* in 2007. However, as new evidence becomes available, NNSA's estimate of the seismic hazard may change slightly, although the hazard estimates are expected to remain fairly stable. For example, the best estimate of the PGA associated with an annual frequency of exceedance of 4×10^{-4} decreased from 0.52 *g* in 2007 to 0.47 *g* in 2009 (LANL 2009). This change was in part due to the availability of a new and improved set of ground motion prediction equations.

Chapter 3, Section 3.5, Geology and Soils, incorrectly stated the maximum earthquake of the Pajarito fault system as Richter magnitude 6.5 to 7.0. This mistake has been corrected. These incorrect maximum earthquake magnitudes stated in the draft SEIS are not reflective of information presented in the PSHA and were not used in the design-basis earthquakes for the proposed CMRR-NF.

Based on the latest geologic data, including that published in Lewis et al. (2009) and documented in the PSHA update (LANL 2007), expected maximum magnitudes for the various rupture scenarios of the Pajarito fault system range from M_w 6.5 to 7.3, and these were input as preferred values with a weight of 0.6 in the analysis. The expected magnitudes were calculated using well-established and widely accepted empirical relations (Wells and Coppersmith 1994). Results were checked and peer-reviewed by an internationally recognized Participatory Peer Review Panel during the PSHA update (LANL 2007). Additional uncertainties of ±0.3 moment magnitude (with a weight of 0.2 each) were included so that the M_w inputs into the PSHA were as large as 7.6, depending on the rupture scenario (LANL 2007). The estimated size of the analogous 1959 Hebgen Lake earthquake is M_w 7.3, whereas the analogous 1983 Borah Peak earthquake was smaller at M_w 6.8 (Doser and Smith 1985). Thus, the range of maximum magnitudes used to calculate design ground motions for CMRR-NF incorporates the magnitudes of historic earthquakes that might be considered analogues for rupture of the Pajarito fault system.

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(c) Agencies:
Shall prepare supplements to either draft or final environmental impact statements if:
(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

The finding of the 2011 SEIS is that the original CMRR described in the 2003 EIS cannot be built. Therefore, the findings of the 2004 EIS do not legally form the basis for the use of this SEIS. Although the basic purpose for building the CMRR remains from the original 2003 EIS and 2004 ROD, the CMRR cannot be built as was proposed due to deficiencies, lack of understanding and dangers inherent in the complex seismic setting at LANL.

The SEIS presents alternatives that are not alternatives at all. The alternative of building the CMRR as originally designed is not possible due to seismic dangers. Continuing use of the old CMR building is not possible according to the SEIS. The SEIS proclaims the only alternative left is to build the CMRR-NF. This is accomplished by ignoring: the no-build alternative, the need for the facility, and the possibility of using non-LANL locations for the CMRR construction.

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The SEIS then presents the shallow or the deep construction options for the CMRR as the only possible alternative to what was not viable in 2003.

- Neither option is based on a full understanding of the seismic setting at LANL.
- It is unknown whether either proposed construction option would withstand a powerful seismic event at LANL that could occur from a synchronous seismic event.
- Neither SEIS excavation option can provide the basis for a complete risk analysis of the consequences in the event of a severe seismic event that could result in rupture at the CMRR location.

Thus, neither construction option offers an improvement over the original 2003 EIS CMRR design. Since it lacks reliable seismic data and knowledge, the SEIS is incapable of providing a meaningful analysis for discussion of major points of view on the environmental impacts in relation to other alternatives, e.g., not building the CMRR at all or building it in a different location.

CONCLUSION

Without a thorough and complete analysis of all the factors related to the proposed construction of the CMRR, the public will only find out about the inherent dangers of the CMRR after some unpredicted catastrophic event. The CMRR SEIS must be retracted.

312-10

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The PSHA (LANL 2007) included both simultaneous and synchronous earthquake rupture models in calculating design ground motions for TA-55. Simultaneous ruptures were slightly favored in the model with a weight of 0.6 because this is the standard model used in PSHA practice, and displacement data for the Pajarito fault system suggests this type of rupture occurred in the past. However, synchronous ruptures were also included in the analysis with a weight of 0.4. The PSHA estimated slightly higher maximum magnitudes for the simultaneous rupture model. Preferred maximum magnitudes for both simultaneous and synchronous ruptures were estimated using the same general approach. It is somewhat counterintuitive that the slightly bigger simultaneous earthquake can result in a lower ground motion hazard, but the two synchronous earthquakes result in higher ground motions for nearby sites, particularly when the site is located between the rupturing fault segments, because energy is coming from two sources. For both synchronous and simultaneous ruptures, maximum magnitudes were estimated in the PSHA based on surface rupture lengths and available displacement data, as appropriate to the particular rupture scenario. The main difference between the simultaneous and synchronous ruptures is that all of the moment (energy) is released in one event in the simultaneous model, versus the moment being split into two slightly smaller synchronous subevents on different segments of the Pajarito fault system, in the synchronous model. Thus, the slightly smaller magnitudes for the synchronous ruptures are a direct result of splitting the fault rupture into two portions for this model. In addition, the 10 percent difference in the total moment release between the two models results from the different geometries used and the fact that displacements do not scale the same as surface rupture lengths in the empirical relations. Finally, maximum magnitudes for both synchronous and simultaneous ruptures were performed using techniques that meet SSHAC (NRC 1997) and DOE guidelines, and were reviewed and accepted by an external review panel, DOE, and the Defense Nuclear Facility Safety Board.

Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 CMRR EIS, updated seismic hazards analyses of the LANL region were issued in 2007 (LANL 2007) and 2009 (LANL 2009). These documents represent the best knowledge to date on the seismic hazard at LANL, with the uncertainties appropriately incorporated. In addition, site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-

Commentor No. 312 (cont'd): Dave McCoy, Director Citizen Action

NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The results of this evaluation have been included in the design of the CMRR-NF, which is still under way and will continue to evolve.

While the PSHA study acknowledges that additional data would provide a more complete understanding of the seismic hazard at LANL, NNSA believes there was sufficient information to complete the study. The uncertainties associated with these areas have been adequately captured and bounded by the results of the study.

312-9 As discussed in Section 2.2, NEPA Process, of this CRD, NNSA determined that supplement to the *2003 CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Therefore, the alternatives reflect the different alternatives for construction of the facility. Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

312-10 NNSA disagrees with the commentor's opinion that the *CMRR-NF SEIS* should be retracted because of concerns about an unpredicted catastrophic event. As described in Section 4.3.10.2 of the *CMRR-NF SEIS*, accident analyses for the CMRR-NF SEIS indicate that there would be no latent cancer fatalities resulting from postulated accidents. These scenarios assume that the CMRR-NF would survive a design-basis earthquake because of the design changes made to meet seismic requirements. See also Section 2.8, Nuclear Accidents, of this CRD for more information about how accidents that could occur at nuclear reactor facilities cannot occur at the CMRR and about other possible accidents and mitigating factors at CMRR-NF.

Commentor No. 313: Robert Aly

John Tegtmeier
Los Alamos National Labs.
3747 West Jemez Rd.
Los Alamos, NM 87544

Dear Sir,

I oppose ANY New bomb production facility IN New Mexico. I also am opposed to Nuclear weapons Production Anywhere.

This proposed facility is a "crime AGAINST the peace" as defined in the Nuremberg Charter AND IS A violation of article 6 of the NON-Proliferation treaty.

313-1

Please Notify Dr. Chu that there are MANY people IN New Mexio who are opposed to this project.

Thanks,
Robert Aly
[redacted]room2@earthlink.Net

313-1 NNSA notes the commentor's opposition to the proposed construction and operation of the CMRR-NF and to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 314: Jason Bohammon

John Tegtmeier
Los Alamos National Labs
3747 West Jemez Rd
Los Alamos, NM 87544

Dear Sir

I strongly opposed any new construction of bomb production facility in New Mexico. I'm also opposed to nuclear weapons production anywhere proposed

This proposed facility is a "crime against the peace" as defined in the Nuremberg Charter and is a violation of article 6 of the Non-Proliferation treaty.

Please notify Dr. Chu that there are many people in New Mexico who are opposed to this project

314-1

Thanks
Jason Bohammon
jabo2r@hotmail.com

314-1 NNSA notes the commentor's opposition to the proposed construction and operations of the CMRR-NF and to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 315: Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

Additional Public Comments of Robert H. Gilkeson, Registered Geologist, and Concerned Citizens for Nuclear Safety (CCNS) about the DOE 2011 draft Supplemental Environmental Impact Statement (draft SEIS) for the proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) at the Los Alamos National Laboratory (LANL) Technical Area-55 (TA-55)
**** Draft SEIS does not meet NRC 1997 Seismic Hazard Analysis Requirements***
**** CMRR-NF Not Designed for a Minimum Maximum Magnitude Earthquake of 8.0***

To: **John Tegtmeier, Document Manager**
Roger Snyder, Deputy Site Manager, NNSA Los Alamos Site Office

From: **Robert H. Gilkeson, Registered Geologist, rhgilkeson@aol.com**

Joni Arends, Concerned Citizens for Nuclear Safety (CCNS)
jarends@nuclearactive.org ccns@nuclearactive.org

Date: **July 5, 2011**

Re: **Insufficient, Incorrect and Misrepresented Seismic Information for Design Basis Earthquakes for Proposed CMRR-NF – Requirement for DOE to Retract DOE 2011 draft SEIS for CMRR-NF**

315-1 **Introduction:** There is a requirement for the Department of Energy (DOE) to retract the DOE 2011 draft Supplemental Environmental Impact Statement (DOE 2011 draft SEIS) for the proposed Chemistry and Metallurgy Research Replacement Nuclear Facility (CMRR-NF) at the Los Alamos National Laboratory (LANL) Technical Area-55 (TA-55) because it does not meet the basic purposes of the National Environmental Policy Act (NEPA). Further the DOE 2011 draft SEIS provides an inadequate and incomplete analysis as detailed below.

315-2 The DOE 2011 draft SEIS on page 3-25 misrepresents the methods used in the LANL 2007 Probabilistic Seismic Hazards Analysis (LANL 2007 PSHA Report) to follow the Senior Seismic Hazard Advisory Committee's Guidelines for a Level 2 analysis in the most recent guidance from the Nuclear Regulatory Commission (NRC), "Recommendations for Probabilistic Seismic Hazard Analysis – Guidance on Uncertainty and Use of Experts" (NRC 1997 SH Guidance Report). *Please note:* The NRC 1997 SH Guidance Report is not available in the electronic reference documents for the DOE 2011 draft CMRR-NF SEIS.

The NRC 1997 SH Guidance Report was a joint project of the NRC, DOE and Electric Power Research Institute. The Main Report was prepared by the Senior Seismic Hazard Analysis Committee (SSHAC) comprised of: R. J. Budnitz (Chairman), G. Apostolakis, D. M. Boore, L. S. Cluff, K. J. Coppersmith, C. A. Cornell, P. A. Morris, Lawrence Livermore National Laboratory.

One of the objectives of the NRC 1997 SH Guidance Report:

> Because PSHA results can be so important for both engineering design and public-policy decision-making, a goal of this project is that the PSHA methodology will ensure the stability of the numerical results for a

*Gilkeson and CCNS Additional Comments about DOE 2011 draft SEIS for CMRR-NF * July 5, 2011 * Page 1*

315-1 NNSA notes the commentor's concerns and technical comments regarding seismic issues related to the *Draft CMRR-NF SEIS*. In addition to all the following responses, refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information and to sections of the *Final CMRR-NF SEIS* where revisions were made to text in response to comments as noted in the specific response that follows each comment below.

NNSA believes that the *CMRR-NF SEIS* meets the requirements of NEPA. Furthermore, NNSA does not believe it is necessary to retract the *Draft CMRR-NF SEIS* or reissue a revised draft SEIS. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazards analysis of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 preliminary seismic hazards analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2 of the *CMRR-NF SEIS*).

315-2 Neither the LANL PSHA Peer Review Panel nor DNFSB found the 2007 and 2009 LANL PSHAs to be "inadequate and incomplete." The purpose of the 2007 LANL PSHA update (LANL 2007), which was followed by another update in 2009 (LANL 2009), was to assess the earthquake ground-shaking hazard at LANL and based on that hazard, develop site-specific design-basis earthquake ground motions for several LANL sites, including CMRR-NF. Both PSHAs were performed following the guidelines established by SSHAC (SSHAC 1997) for PSHAs, particularly with regard to the incorporation of uncertainty. DOE, NRC, and the Electric Power Research Institute (EPRI) sponsored the development of the SSHAC guidelines. The goal of any PSHA is to develop inputs that represent the composite distribution of the informed technical community. SSHAC recognizes that PSHA inputs can be subject to considerable uncertainties

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> reasonable period of time (five to ten years) or until significant new technical information presents itself (Section 1.4, p. 4).

315-2 cont'd

The pertinent excerpt from page 3-25 is pasted below:

> The methods used in the updated 2007 analysis [LANL 2007 Probabilistic Seismic Hazard Analysis (PSHA)] follow the Senior Seismic Hazard Advisory Committee's guidelines for a Level 2 analysis in the most recent guidance from NRC, "Recommendations for Probabilistic Seismic Hazard Analysis – Guidance on Uncertainty and Use of Experts" (NRC 1997). Based on this analysis, the dominant contributor to seismic risk at LANL is the Pajarito Fault system, due to its proximity and level of seismic activity. The main element of the fault system is the Pajarito Fault. Secondary elements include the Santa Clara Canyon Fault, the Rendija Canyon Fault, the Guaje Mountain Fault, and the Sawyer Canyon Fault (DOE 2008a; LANL 2007a).

315-3

The locations of the above faults in the vicinity of LANL are shown on Figure 1. Figure 2 shows the locations of mapped faults in the LANL 2007 PSHA Report and in the DOE 2011 draft SEIS. Figure 3 is from a report by LANL scientist Kenneth H. Wohletz (Wohletz, 2004) which shows the disagreement among LANL scientists on the location of faults close to the proposed CMRR-NF. The inferred locations of faults on Figure 3 is determined from detailed field mapping of zones of intense fractures both west, north and east of the proposed CMRR-NF.

due to incomplete data and scientific understanding, as well as from process variability. In particular, when developing the inputs for PSHA, it is recognized that there is always incomplete knowledge because that is the nature of trying to characterize a complex natural process. However, by performing PSHAs in a manner consistent with the SSHAC guidelines, particularly with regards to the incorporation of the range of different interpretations and scientific uncertainties, the results should be robust and stable. Participatory peer review is also an essential element of a successful PSHA and in the case of the LANL PSHAs, an internationally recognized expert panel was engaged. In addition, DNFSB was involved in the 2007 and 2009 studies and provided commentary on the process.

As a result of comments received on the *Draft CMRR-NF SEIS*, Chapter 3, Section 3.5, Geology and Soils, of the *CMRR-NF SEIS* was revised to improve the description of faulting and seismic hazards at LANL.

315-3 The fault shown 800 feet (244 meters) west of the proposed CMRR-NF, by Vaniman and Wohletz (1990) and Wohletz (2004), is an inferred fault, meaning that the fault is interpreted to be present at some depth below the location at which it is mapped; however, no evidence for surface-rupturing faults was found along that mapped trace. The work of Vaniman and Wohletz helped spur the LANL Seismic Hazards Program to conduct detailed, site-specific studies around TA-55 (for example, Gardner et al. 1998, 1999, 2008) to determine the presence or absence of surface-rupturing faults, using detailed investigative methods. These methods included conventional geologic mapping at 1:1,200 scale, high-precision total station geologic mapping of Bandelier Tuff subunit contacts to identify faults, and large-scale trenching investigations at the site of the proposed CMRR-NF. Gardner et al. (1998, 1999) identified no faults or offsets along geologic contacts suggesting the presence of a fault at TA-55. Although Gardner et al. (2008) did observe some fractures and small faults confined within units of the tuff, they concluded that fractures and faults exposed at the proposed CMRR site formed very shortly after emplacement of the tuff, 1.26 million years ago, as a result of cooling and compaction, and the structures identified at the proposed CMRR-NF site pose no independent seismic surface rupture hazard. No evidence for active faulting was identified by Gardner et al. (1998, 1999, 2008) near the proposed CMRR-NF, as inferred by early studies of Vaniman and Wohletz (1990) and Wohletz (2004).

The work of Lewis et al. (2009) is a comprehensive, peer-reviewed report and map on the Pajarito fault system. Using data presented in Lewis et al. (2009), the

Figure 1. Map of the Pajarito Fault System and Embudo Fault System – Southwestern Section in Northern New Mexico. **Source:** Figure 5-4 in LANL 2007 PSHA Report.

315-3 cont'd

nearest laterally continuous, surface-rupturing fault to the proposed CMRR-NF is located approximately 3,300 feet (1,000 meters) to the west-northwest, in the western portion of TA-64, with 3 feet (1 meter) of down-to-the-west displacement.

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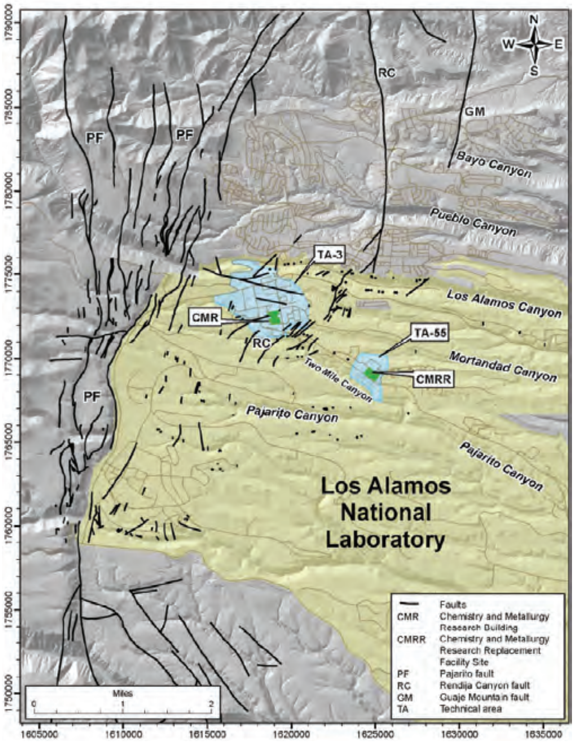
Figure 2. Mapped Faults in the Los Alamos National Laboratory Area.
Source: Figure 3-5 in the DOE 2011 SEIS for locating the proposed CMRR Nuclear Facility at LANL TA-55.



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315-3 cont'd

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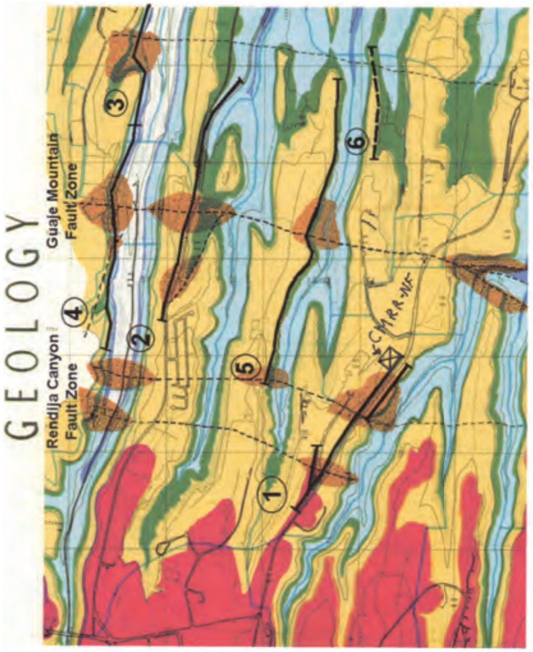
Figure 3. Map in 2004 LANL Report by Wohletz showing proposed location of Rendija Canyon Fault along the western boundary of LANL TA-55 and Guaje Mountain Fault 2500 feet east of the eastern boundary of TA-55.
Source: Figure 14 in Wohletz, 2004 (LA-UR-04-8337)



Scale 0--------------------1950 feet

- **Black X inside rectangle is location of proposed CMRR-NF**
- **Dashed black lines show trend of inferred faults - - - - - - - - -**
- **Brown patches along dashed black lines are zones of intense fractures**
- **Circled numbers 1 to 6 have no relation to intense fracture zones.**

315-3 cont'd

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The LANL 2007 PSHA Report and the DOE 2011 draft SEIS did not use the demonstrated zones of intense fractures on Figure 3 to identify potential locations for buried active faults. The fault map in the LANL 2007 PSHA Report (see Figure 2) was limited to where field studies mapped displacements on faults. However, the NRC 1997 SH Guidance Report in Section 4 on page 54 describes the importance for knowledge of buried active faults close to the proposed CMRR-NF and for other critical LANL facilities in the following four issue areas:

315-3 cont'd

NRC 1997 SH Guidance Report – Issue 1. Location of buried active faults close to the proposed CMRR-NF.

> At a minimum, the location of fault sources must be identified in map view. Usually a fault map depicts the line of intersection of faults with the ground surface. In the case of blind faults that do not intersect the surface, the location of the shallowest extent of the fault should be indicated on the fault maps. With the occurrence of the 1983 Coalinga earthquake and the 1994 Northridge earthquake has come an increasing recognition of the important contribution that blind or buried faults can make to seismic hazard.

A brief description of the buried 1983 Coalinga and 1994 Northridge earthquakes in California follows:

- Description of the 1983 Coalinga Earthquake in the URL listed below http://earthquake.usgs.gov/earthquakes/states/events/1983_05_02.php

> This damaging earthquake [Magnitude 6.4] was caused by an 0.5-meter uplift of Anticline Ridge northeast of Coalinga, but surface faulting was not observed. Ground and aerial searches immediately after the earthquake revealed ground cracks and fissures within about 10 kilometers of the instrumental epicenter, none of which appeared to represent movement on deeply rooted fault structures.

- Description of the 1994 Northridge Earthquake in the URL listed below http://nisee.berkeley.edu/northridge/

> At 4:31 A.M. local time, Monday, January 17, 1994 the Northridge earthquake struck the San Fernando Valley region of Southern California with a moment magnitude measured at 6.7 and focal depth of 19 km. The earthquake was centered 32 km west-northwest of Los Angeles along a south-dipping, blind thrust fault. Little if any surface faulting was produced. The earthquake resulted in 57 deaths, more than 5,000 injuries, and structural damage including instances of partial or complete structural collapse. Estimates of more than $20 billion in property damage make this earthquake the costliest seismic disaster in U.S. history.

315-4

***Comment by Gilkeson and Arends.** The NRC 1997 SH Guidance Report requires DOE to have accurate knowledge of the presence of buried active faults close to the proposed CMRR-NF. The zones of intense fractures on Figure 3 may indicate buried active faults close to the location of the proposed CMRR-NF. DOE has not performed the necessary field investigations with detailed field mapping, drilling of coreholes and surface geophysics (seismic and aeromagnetics) to determine the presence of buried*

315-3 cont'd

315-4 Chapter 3, Section 3.5.3, Faulting, of the *CMRR-NF SEIS* provides information about fault locations in relation to the CMRR-NF location at TA-55. This includes three figures showing the locations of faults near LANL and the CMRR-NF. No surface faults were found at TA-55, and the zones of higher-density fracturing were found not to correlate to regions of surface faulting (Reneau et al. 1995; Gardner et al. 1998, 1999, 2008). Therefore, it is expected that the CMRR-NF would not be directly affected by surface faulting.

active faults close to the proposed CMRR-NF. The failure of DOE to characterize buried active faults close to the proposed CMRR-NF requires DOE to retract the DOE 2011 draft SEIS. In addition, the 2009 report by the LANL Seismic Hazards Geology Team (Lewis et al., 2009) described the insufficient knowledge of the southern extent of the Guaje Mountain Fault (GMF) toward the proposed CMRR-NF as follows: **315-3 cont'd**

> The southern extent and amount of displacement of the GMF are not well characterized (p. 257).
>
> **Conclusions. . .** The southern end of the GMF has not been mapped in detail, but its southern termination is likely to be similar to that of the Rendija Canyon fault (p. 268).

Comment by Gilkeson and Arends. *A southern termination of the GMF "similar to that of the Rendija Canyon Fault" would locate the GMF close to the proposed CMRR-NF. The above excerpt describes the requirement in the NRC 1997 SH Guidance Report for accurate maps that provide the following:* **315-5**

> "At a minimum, the location of fault sources must be identified in map view. Usually a fault map depicts the line of intersection of faults with the ground surface."

Comment by Gilkeson and Arends. *The fault map in the DOE 2011 draft SEIS does not provide accurate knowledge of the location of fault sources close to the proposed CMRR-NF because the LANL Seismic Hazards Geology Team describes the need for detailed field investigations to map the southern boundary of the GMF.*

NRC 1997 SH Guidance Report – Issue 2. **<u>Accurate knowledge of fault geometry is required</u>.** The NRC 1997 SH Guidance Report describes the requirement for accurate knowledge of the geometry of the faults as follows:

> The need to characterize the three-dimensional geometry of a source is greatest where the source to-site distance is small. For example, if a fault is less than 10 km from a site, the direction and amount of dip away from or toward the site can have a large impact on the source-to-site distance (p. 54).

However, the LANL 2007 PSHA Report describes the lack of knowledge of the fault geometry as follows on page 5-12: **315-6**

> Figure 5-7 shows views of our 3-D structural model for the PFS. These views were extracted from an interactive 3-D representation created by Claudia Lewis in Arcsine using digital elevation data to model the ground surface, digital fault traces to accurately represent complex geometries, and ***<u>assumed fault dips</u>*** [Emphasis Supplied] (which are within the ranges used in our seismic source characterization for the PFS, Figure 5-8). **<u>It is noteworthy that the fault dips are the most poorly constrained part of the model due to the lack of subsurface structural data</u>** [Emphasis Supplied].

In addition, the LANL report (Lewis et al., 2009) by the LANL Seismic Hazards Geology Team recognized an important deficiency in the LANL 2007 PSHA Report is the lack of

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315-5 Lewis et al. (2009) states that the southern extent and amount of displacement on the Guaje Mountain fault are not well constrained. Detailed geologic mapping of the area between the mapped southern termination of the Guaje Mountain fault and the northern side of Los Alamos Canyon has not yet been undertaken. That said, studies have completed detailed geologic mapping of LANL from Los Alamos Canyon to the north to Pajarito Canyon to the south, and from the Pajarito fault escarpment to the west to TA-46 to the east (for example, Gardner et al. 1999; Lavine et al. 2003). These studies carefully looked for the presence or absence of surface faulting associated with the Rendija Canyon and Guaje Mountain faults within LANL property. Geologic mapping at LANL to identify surface faulting is summarized by Animation 1 in Lewis et al. (2009).

Lewis et al. (2009) shows that the Rendija Canyon fault trends southward to Los Alamos Canyon, then splays southwesterly into a broad zone of deformation in LANL's TA-3. Surface faulting from the Rendija Canyon fault was not identified due south of Los Alamos Canyon, including at TA-55. The surface expression of the Guaje Mountain fault is not visible south of Pueblo Canyon, including within LANL property.

Using the data presented in Lewis et al. (2009), as a comprehensive, peer-reviewed report and map of the Pajarito fault system, the following can be stated with respect to distances from the center of the proposed CMRR-NF:

- the nearest geologic structure with lateral continuity is associated with the Rendija Canyon fault, located approximately 3,300 feet (1,000 meters) west-northwest of the center of the proposed CMRR-NF. This geologic structure is located within the "horsetail" splay of the Rendija Canyon fault, in the western portion of TA-64, exhibits 3 feet (1 meter) of down-to-the-west displacement, and has a mapped length of approximately 100 feet (30 meters).
- the location at the north side of Los Alamos Canyon, where the Rendija Canyon fault changes its trend from southerly to southwesterly, is located approximately 6,250 feet (1,900 meters) north of the center of the proposed CMRR-NF.
- the mapped southern termination of the Guaje Mountain fault, north of Pueblo Canyon, within the Los Alamos townsite, is approximately 13,000 feet (3,960 meters) north-northeast of the center of the proposed CMRR-NF.

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knowledge of the fault geometry for the Pajarito Fault System (PFS) as follows on page 252:

> Despite the importance of understanding the geometry of the fault system and potential linkage among faults for purposes of seismic hazard analysis, a robust kinematic model of the [Pajarito] fault system is lacking.

Summary Comment by Gilkeson and Arends. *The DOE draft 2011 SEIS and the LANL 2007 PSHA Report do not provide the knowledge as required in the NRC 1997 SH Guidance Report for the locations of faults and the geometry of faults close to the proposed CMRR-NF. There is a requirement to retract the DOE 2011draft SEIS and perform the necessary field studies. These field studies should be conducted and reviewed by independent peer reviewers as required by the 2005 Office of Management and Budget.*

315-6 cont'd

NRC 1997 SH Guidance Report - Issue 3. Use of analog earthquake sites to determine the maximum Magnitude (M) of potential earthquakes in the PFS System. The NRC 1997 SH Guidance Report recommends the use of analog sites to determine the maximum earthquake magnitude (**M**) when there is insufficient knowledge of the dimensions of fault rupture. The above excerpts from Lewis et al., 2009 show that there is insufficient knowledge of fault rupture dimensions for the PFS and especially for the GMF in the immediate vicinity of the proposed CMRR-NF. The maximum magnitude **M** used as the design basis earthquake for the proposed CMRR-NF was incorrectly calculated as 7.27 (the reason the 7.27 maximum moment **M** is incorrect is described in Issue 1.A. in the June 28, 2011 public comments of Gilkeson and Arends). The importance to consider the maximum earthquakes for analogous historic earthquakes at other locations that are tectonically similar to the PFS is described in the NRC 1997 SH Guidance Report as follows:

> Other considerations in assessing maximum earthquakes for area sources are analogies to other sources. The source of interest may be tectonically similar to another source such that their maximum earthquakes are also deemed to be similar (p. 58).

From consideration of analog earthquakes, the design basis earthquake for the proposed CMRR-NF should have been at least maximum magnitude **M** 7.5 instead of the incorrect value of **M** 7.27. This is because the maximum magnitude **M** 7.5 for the analogous 1959 Hebgen Lake earthquake should have been used. The LANL 2007 PSHA Report described the 1959 Hebgen Lake earthquake as an analog for the PFS and the Valles Caldera as follows:

> Another example of a synchronous rupture that is a possible analog for the PFS is the **M** 7.3 1959 Hebgen Lake earthquake [actually **M** 7.5, see below] which involved multiple discrete faults and two subevents: a mb 6.3 event followed 5 seconds later by a mb 7.0 event (Doser, 1985). This is a good possible analog for the PFS because 1) it occurred in a region adjacent to a Quaternary caldera, as does the PFS; 2) it clearly involved multiple overlapping but distinct faults (rupture segments) with complex geometries, including opposing dips like the PFS; 3) it was dominantly extensional; and, 4) it had large displacements [23 feet], as is suggested for the PFS [Emphasis Supplied].

315-7

These data presented above, which are consistent with those provided in Chapter 3, Section 3.5, Geology and Soils, of the *CMRR-NF SEIS*, correspond to data used to calculate design-basis earthquake ground motions for the CMRR-NF.

It is important to note that precise locations of the strands of the Pajarito fault system, with respect to the CMRR-NF, are not needed for estimating the ground-shaking hazard at the site. The ground motion prediction models "flatten" out at short distances, less than a few kilometers for large magnitude earthquakes (M > 6.5), so the hazard is not sensitive to uncertainties in fault locations of hundreds of meters. Precise fault locations are needed for assessing the hazard from surface fault rupture, but the potential for surface faulting at the CMRR-NF is considered very low.

315-6 The comment indicates that site-specific data on the geometry and sense of slip of the Pajarito fault system are inadequate because studies have not been conducted. Dozens of mapping studies of the Pajarito fault system have been conducted (for example, Gardner and House 1987; Wong et al. 1995; Carter and Gardner 1995; McCalpin 1997; Lavine et al. 2003), including state-of-the-art, high-precision mapping in the vicinity of LANL. In addition, numerous paleoseismic trench investigations have been conducted at 17 sites over the past 20 years (for example, Gardner et al. 1990; Olig et al. 1996; Kelson et al. 1996; LANL 2007; McCalpin 1998, 1999, 2005). These studies clearly show that the Pajarito fault system is a series of normal slip faults that form the best studied fault system in the Rio Grande rift. Admittedly, some parts of the fault have not been as well studied as others; these tend to be those portions outside of LANL, especially where access issues are a problem (for example, the Santa Clara Canyon segment). Additional study of these areas would likely improve our understanding of the fault and could help reduce uncertainties in the inputs, but these studies are not a prerequisite to conducting a PSHA or determining design ground motions at LANL. The uncertainties in regards to fault geometry, rupture behavior, and sense of slip on the Pajarito fault system were fully recognized and addressed in the range of inputs to the PSHA. A range of fault dips was used (±15°), a component of oblique slip was considered in calculating slip rates, and two rupture models and various rupture scenarios were included in the analysis to address remaining uncertainties in the geometry and sense of slip of the Pajarito fault system.

In addition, several of the coauthors of the Lewis et al. (2009) study, including the lead author, were involved in developing the seismic source model of the

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The 7.3 – 7.5 Richter magnitude of the Hebgen Lake earthquake is described as follows in the U.S. Geological Survey Fact Sheet 2005-3024 issued in 2005:

> The Hebgen earthquake of August 17, 1959 occurred at 11:37 p.m. Mountain Standard Time. The earthquake had a Richter magnitude of 7.3 – 7.5.

NRC 1997 SH Guidance Report - Issue 4. **Because of the record of increasing activity into the future for the youthful PFS, the NRC 1997 SH Guidance Report requires the addition of one-half earthquake magnitude unit M or one intensity unit to the design basis earthquake for the proposed CMRR-NF as follows**:

> In cases where the maximum historical earthquake has not been assessed to be equivalent to the maximum possible earthquake, past practice has included adding an increment of one-half earthquake magnitude unit or one intensity unit to the maximum historical earthquake (p. 57).

The NRC 1997 SH Guidance Report requires the design basis earthquake for the proposed CMRR-NF to be a minimum maximum moment **M** of 8 (7.5 (Hebgen Lake) plus .5 (NRC 1997 SH Guidance Report)) rather than the maximum moment of 7.27 that was used in the DOE 2011 draft SEIS. The fact that the youthful PFS is growing and increasing over time in the potential for more powerful earthquakes is described in the LANL 2007 PSHA Report as follows: 315-7 cont'd

> In the 1995 study, recurrence intervals were not used for most of the 26 rupture scenarios due to the lack of recurrence interval data. The weighted-mean recurrence interval was 32,000 years when they were used and the weighted-mean slip rate for most of the rupture scenarios was 0.182 mm/yr. In comparison, the weighted-mean recurrence for Rupture Model C, the strongly favored (weighted 0.85) model in this study is 8,400 years and the weighted-mean slip rate is 0.211 mm/yr (Figure 5-8). Sensitivity studies show that these higher rates have a significant impact on the hazard (Section 7.2.2) and so we know that increased rates on the PFS likely contributed measurably to the increase in hazard for this study, but we cannot specify exactly how much [Emphasis Supplied] (p. 9-6).
>
> Interestingly, the scaling factor needed to adjust segment slip rates in order to achieve preferred target recurrence intervals is 2.11 (see footnote 6 of Table 5-14), which is essentially the same factor between the long term slip rate (0.1 mm/yr) and the weighted mean for the slip rate distribution derived from the RGR [Rio Grande Rift] analysis (cf., slip rate branch for Rupture Model C on Figure 5-8). Thus, the moment balancing approach is implying that the late Quaternary rates are about twice as fast as the long-term Quaternary rates (and the Holocene rates are about 8 to 10 times faster than the Quaternary rates). We already knew this from the paleoseismic data, but it is reassuring to see that our moment-balanced rates for Rupture Model B are consistent with our slip rates assigned to Rupture Model C [Emphasis Supplied] (p. 5-20). 315-8

Summary Comment by Gilkeson and Arends. *The DOE 2011 draft SEIS did not follow the requirements in the NRC 1997 SH Guidance Report to use an appropriate analog historic earthquake for the maximum moment **M** and to add one-half magnitude* 315-7 cont'd

Pajarito fault system for the 2007 PSHA update. All of the data and analyses for the Pajarito fault system published in the Lewis et al. (2009) study were included or considered in the PSHA update. The first draft of the Lewis et al. paper was written in 2007 and it took 2 years to get through the review and publication process.

315-7 The claim that the maximum magnitudes were not correctly calculated in the 2007 PSHA, have no technical basis, or were underestimated, because they are less than magnitudes for historic analogue earthquakes (for example, 1959 Hebgen Lake and 1983 Borah Peak earthquakes), is not accurate.

Richter magnitudes (M_L) can differ from moment magnitudes (M_w), especially at large magnitudes. Therefore, to make a direct "apples to apples" comparison, the magnitude values should be compared using the same scale. All magnitudes used in the LANL PSHA were in terms of M_w, not M_L. Based on the latest geologic data, including those published in Lewis et al. (2009) and documented in the PSHA update (LANL 2007), expected maximum magnitudes for the various rupture scenarios of the Pajarito fault system range from M_w 6.5 to 7.3, and these were input as preferred values with a weight of 0.6 in the analysis. The expected magnitudes were calculated using well-established and widely accepted empirical relations (Wells and Coppersmith 1994). Results were checked and peer-reviewed by an internationally recognized Participatory Peer Review Panel during the PSHA update (LANL 2009). Additional uncertainties of ±0.3 moment magnitude (with a weight of 0.2 each) were included so that the M_w inputs into the PSHA were as large as 7.6, depending on the rupture scenario (LANL 2007). The estimated size of the 1959 Hebgen Lake earthquake is M_w 7.3, whereas the 1983 Borah Peak earthquake was smaller, at M_w 6.8 (Doser and Smith 1985). Thus, the range of maximum magnitudes used to calculate design ground motions for the CMRR-NF incorporates the magnitudes of historic earthquakes that might be considered analogues for rupture of the Pajarito fault system.

The statement in the 1997 SSHAC guidelines "in cases where the maximum historical earthquake has not been assessed to be equivalent to the maximum possible earthquake, past practice has included adding an increment of one-half magnitude unit or one intensity unit to the maximum historical earthquake" is for area sources, not active faults. This statement also refers to "past practice." Current practice for estimating the maximum magnitude for an area source is based on evaluating the maximum earthquake in analogue seismotectonic regions. For an active fault, SSHAC (1997) describes two general approaches:

Commentor No. 315 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

315-7 cont'd

*unit for the design basis earthquake for the proposed CMRR-NF because the youthful PFS is growing in power. Accordingly, the NRC 1997 SH Guidance Report required that the design basis earthquake for the proposed CMRR-NF was a minimum maximum magnitude **M** of 8.0 instead of the incorrect maximum magnitude **M** of 7.27 that was used in the DOE 2011 draft SEIS. DOE is required to retract the DOE 2011 draft SEIS because is does not provide a safe and efficient design for the proposed CMRR-NF and does not analyze for a minimum maximum magnitude **M** 8.0 for the design basis earthquake.*

315-3 cont'd

Below are our questions from our review of the NRC 1997 Seismic Hazard Guidance Report 1 through 4. Please provide specific answer to our Questions NRC 1997 Seismic Hazard Guidance Report 1 through 4 in your Response to Comments for the DOE 2011 draft SEIS for the CMRR-NF. Please do not generalize or group the important issues raised in these additional comments by Gilkeson and CCNS.

Also, we add the same request not to generalize or group the June 28, 2011 comments of Robert H. Gilkeson, Registered Geologist, and Joni Arends, Concerned Citizens for Nuclear Safety (CCNS) about the DOE 2011 draft SEIS.

NRC 1997 Seismic Hazard Guidance Report Issue 1. The NRC 1997 SH Guidance Report recognizes the importance for the seismic hazard assessment for the proposed CMRR-NF to include locations of active buried faults. The best knowledge of active buried faults close to the location of the proposed CMRR-NF is the detailed field mapping of zones of intense fractures by LANL scientist Kenneth H. Wohletz (Wohletz, 2004). The zones of intense fractures close to the proposed CMRR-NF are displayed on Figure 3. The DOE 2011 draft SEIS did not consider the zones of intense fractures close to the proposed CMRR-NF as a seismic hazard from active buried faults. Accordingly, should DOE retract the 2011 draft SEIS? If not, why?

315-6 cont'd

NRC 1997 Seismic Hazard Guidance Report Issue 2. The NRC 1997 SH Guidance Report recognizes the need for accurate knowledge of the direction and angle of dip for the discrete faults in the PFS, especially for faults close to the proposed CMRR-NF. However, the LANL 2007 PSHA Report states, "It is noteworthy that the fault dips are the most poorly constrained part of the model due to the lack of subsurface structural data." In addition, the LANL Seismic Hazards Geology Team in Lewis et al., 2009 recognized that "The southern extent and amount of displacement of the GMF toward the CMRR-NF are not well characterized." Accordingly, should DOE retract the DOE 2011 draft SEIS? If not, why?

Further, the LANL Seismic Hazards Geology Team in Lewis et al., 2009 recognized the overall failure for knowledge of the direction and angle of dip of the entire network of faults in the PFS as follows:

> Despite the importance of understanding the geometry of the fault system and potential linkage among faults for purposes of seismic hazard analysis, a robust kinematic model of the [Pajarito] fault system is lacking.

*Gilkeson and CCNS Additional Comments about DOE 2011 draft SEIS for CMRR-NF * July 5, 2011 * Page 10*

constraints provided by historical seismicity and estimates of maximum rupture dimensions. Given the lack of significant historical seismicity on the Pajarito fault system, the latter approach has been used to estimate the maximum earthquake in addition to fault displacements from paleoseismic investigations.

315-8 There is no geologic or seismologic evidence that the rate of occurrence of surface-faulting earthquakes (magnitude > 6.5) is increasing along the Pajarito fault system. Paleoseismic investigations indicate that three large earthquakes ruptured along the Pajarito fault system during the Holocene period (past 11,000 years), suggesting that this recent activity may represent a temporal cluster in the long-term behavior of the fault (LANL 2007, Lewis et al. 2009). However, this possible pattern in the activity rate of the Pajarito fault system has been incorporated into the PSHA (LANL 2007). There is also no geologic or seismologic evidence that would suggest that the maximum potential earthquake along the Pajarito fault system is increasing in size. The maximum earthquake for the Pajarito fault system has been estimated for the PSHA based on observed fault displacements from past earthquakes and rupture dimensions of the potential fault rupture. Over the lifetime of the CMRR Facility and much longer, that is, thousands of years, the level of seismic hazard at the CMRR site is not expected to change because there are not expected to be changes in the maximum potential earthquake and activity rates of the Pajarito fault system. The general behavior of the Pajarito fault system is not expected to change over the time scale of the next century.

315-9 NNSA notes the commentor's position that the *CMRR-NF SEIS* is inadequate and that a full suite of reasonable alternatives should be evaluated. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information. Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, describes alternatives considered but dismissed from detailed analysis. These alternatives are: (1) alternatives locations outside LANL; (2) extensive upgrades to the existing CMR Building; and (3) moving capabilities to other LANL facilities. In addition, NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. This included options for moving CMR to another location. In the 2008 ROD for the *Complex Transformation SPEIS* (73 FR 77644) NNSA reaffirmed the decision to construct and operate the CMRR-NF at LANL. For the reasons described in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*, these alternatives are not being revisited.

Commentor No. 315 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

The record shows that DOE does not have the required knowledge of the geometry of faults in the PFS that is recognized as an important parameter for calculating the seismic hazard as required by the NRC 1997 SH Guidance Report. Accordingly, should DOE retract the DOE 2011 draft SEIS? If not, why? **315-6 cont'd**

NRC 1997 Seismic Hazard Guidance Report Issue 3. The NRC 1997 SH Guidance Report requirement for the maximum magnitude **M** earthquake for the proposed CMRR-NF should be from historic analogs. This is because there is too much uncertainty in the sparse data that was used to incorrectly calculate the maximum magnitude **M** of 7.27 in the LANL 2007 PSHA Report. The reasons the maximum magnitude is incorrectly calculated in the LANL 2007 PSHA Report are described in Issue1.A. in our June 28, 2011 public comments by Gilkeson and Arends.

The LANL 2007 PSHA Report identified the maximum moment **M** of 7.5 for the 1959 Hebgen Lake Earthquake as an analog for the PFS. The United States Geologic Survey http://earthquake.usgs.gov/learn/topics/richter.php reported a 7.5 magnitude earthquake is approximately seven (7) times more powerful for seismic hazard than a 7.27 earthquake. Accordingly, should DOE retract the DOE 2011 draft SEIS because the 1997 NRC Guidance for Seismic Hazard is not followed for the design of the proposed CMRR-NF? If not, why? **315-7 cont'd**

NRC 1997 Seismic Hazard Guidance Report Issue 4. The NRC 1997 SH Guidance Report recognizes the need to add one-half magnitude moment **M** to the design basis earthquake for the proposed CMRR-NF. This is required because the youthful PFS is increasing in power for more powerful earthquakes into the future at a rate that cannot be calculated with current knowledge. The pertinent excerpt from the NRC 1997 SH Guidance Report is below:

> In cases where the maximum historical earthquake has not been assessed to be equivalent to the maximum possible earthquake, past practice has included adding an increment of one-half magnitude unit or one intensity unit to the maximum historical earthquake (p. 57).

Accordingly, should DOE retract the DOE 2011 draft SEIS because the 1997 NRC Guidance for Seismic Hazard is not followed to add one-half magnitude moment **M** for the design of the proposed CMRR-NF? If not, why?

<u>Our Recommendations</u>:

The DOE 2011 draft SEIS does not meet the basic purposes of the NEPA. 40 CFR 1500 *et seq.* For example, the DOE 2011 draft SEIS does not provide reasonable alternatives for constructing and operating the proposed CMRR-NF, final design is not provided for the two construction options, and the final cost estimates have not been completed. For instance: **315-9**

> NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before

Regarding the final design of the project, the draft SEIS and PSHA are not intended to be used as design-level documents. The PSHA represents the best knowledge to date on the seismic hazard at LANL, with the uncertainties appropriately incorporated. The results of the PSHA and site-specific geotechnical reports referenced in the geology discussions in Chapter 3, Section 3.5, and Chapter 4, Section 4.5 (Kleinfelder 2007a, 2007b, 2010a, 2010b), have been included in the preliminary design of the CMRR-NF, which will be finalized subsequent to completion of the SEIS. Per DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, final or detailed design cannot be started until the NEPA document (Final SEIS in this case) has been completed, so as not to prejudice the outcome, or restrict or narrow the range of alternatives to be considered.

Regarding the cost of the project, the cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Commentor No. 315 (cont'd): Robert H. Gilkeson and Concerned Citizens for Nuclear Safety (Joni Arends)

> actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. 40 CFR §1500.1(b).

315-9 cont'd

NEPA also requires that "if a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." 40 CFR §1502.9(a). Because the seismic issues impact each and every aspect of the proposal to construct and operate a CMRR-NF – and the fact that the DOE 2011 draft SEIS does not analyze for a minimum magnitude 8.0 earthquake, we urge DOE to retract the DOE 2011 draft SEIS. DOE must prepare and circulate a new revised draft environmental impact statement for public review and comment.

315-1 cont'd

Further, the Office of Management and Budget requires that for large projects, such as the proposed $6 billion CMRR-NF, that the documents be peer reviewed. "This new guidance is designed to realize the benefits of meaningful peer review of the most important science disseminated by the Federal Government." Final Information Quality Bulletin for Peer Review, 70 Fed. Reg. 2664 (2005), available at <http://www.whitehouse.gov/omb/memoranda/>.

315-2 cont'd

Thank you for your careful consideration of our comments.

Response side of this page intentionally left blank.

Commentor No. 316: Patricia O'Leary

From: Patricia O'Leary [PSOLeary@msn.com]
Sent: Sunday, July 03, 2011 9:54 AM
To: NEPALASO@doeal.gov
Subject: Re: No Nuclear/plutonium bombs at Los Alomos!

I am very concerned with regard to the proposal to build new plutonium bombs at Los Alamos Lab. Too much risk in view of fires and earthquakes. *316-1*

Patricia O'Leary
PSOLeary@msn.com

316-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The commentor's earthquake concerns are addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 317: Lasita Shalev

From: Human Design America [hdamerica@mac.com]
Sent: Sunday, July 03, 2011 11:07 PM
To: NEPALASO@doeal.gov
Cc: Marcia Starck; Barbara Moser-Kranjcec; Sharon Russell-Gicelter; Abbey Jennings; John Borrelli; branka copic; Dvir Itshaki; Carly Newfeld; Grace Weisman; Elisha Weisman; Raphael Weisman; Frank Camarda; Jonathan Gimbel; Gabrielle Wagner; Hilary Clayton
Subject: Comments about Los Alamos Plutonium Pit Project

To whom it may concern!!!

We have enough bombs to explode the world hundreds of times over and they are all still viable and yet people propose we make more.

Are you lot crazy?

Introducing more plutonium and the consequent "toxic waste" from it into New Mexico is ludicrous and very unfunny *317-1*

Please pay attention to the health needs of NM residents!

Blessings and Peace,

Lasita Shalev

____

PLEASE SEND YOUR COMMENTS IN TO THIS GOV address .... NEPALASO@doeal.gov ____

317-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 318: Vic and Barby Ulmer

From: Barby and Vic Ulmer [odw@magiclink.net]
Sent: Monday, July 04, 2011 3:43 PM
To: NEPALASO@doeal.gov
Subject: Stop plans for Plutonium Bomb Plant

A plutonium bomb plant at Los Alamos is or at least ought to be unthinkable.

What with the 60 year drought predicted, the severe lack of water for human needs, the danger of fire made real with the current one ranging and the tremendous need for water for such a plant it makes NO SENSE whatsoever to build one.

Nor is this the step we should be taking politically, especially since we've signed a treaty and made a committment to scale down, not build up nuclear weapons.

Please don't allow this to happen.

318-1

Sincerely,

Vic and Barby Ulmer
Saratoga CA 95070

318-1 NNSA notes the commentor's opposition to the CMRR-NF project and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 319: Susan Osberg

From: Susan Osberg [susanosberg@mac.com]
Sent: Monday, July 04, 2011 5:19 PM
To: NEPALASO@doeal.gov
Subject: CMRR Nuclear Facility

AS a citizen on the U.S., in the light of Fukushima, of Desmond Tutu's call to honor the treaties of Nuclear Disarmament and the terrible fires that are sweeping through the region threatening the wellbeing of us all, I do not support CMRR The Nuclear Facility project in Los Alamos. The 6 billion dollars can be put to great use. *319-1*

Susan Osberg
susanosberg@mac.com
www.susanosberg.com

319-1 NNSA notes the commentor's opposition the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the Fukushima Daiichi Nuclear Power Plant, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Current operations at LANL do not violate any treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials, including vegetation, are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding the commentor's statement about funding, decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 320: Abbe Anderson

From: Abbe Anderson [abbe@abbeanderson.com]
Sent: Monday, July 04, 2011 9:48 AM
To: NEPALASO@doeal.gov
Subject: please oppose the CMRR project

Hello. Due to the wildfires, more plutonium storage is suicidal. Please redirect the funds into something that can support the people of this beautiful state. *320-1*

Thank you.

320-1 NNSA notes the commentor's concern regarding the storage of plutonium at the CMRR-NF. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding funding priorities, decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 321: Richard Miller

From: Dick Miller [dick_miller@comcast.net]
Sent: Monday, July 04, 2011 6:24 PM
To: nepalaso@doeal.gov
Subject: Supplemental EIS for CMRR

Mr John Tegtmeler,

Pardon my slightly late response. I was a nuclear physicist before I retired in 1996. I worked primarily at SAIC for the DNA and participated in a number of projects involving LANL personnel. My basic work involved measuring the x-ray spectral output of nuclear devices at underground test sites at the Nuclear Test Site in Nevada, thus providing the DNA with information that they could use to estimate the effectiveness of nuclear rockets designed to be used to deter Soviet nuclear rockets from reaching our country, in the event of a Soviet nuclear attack.

321-1

I find the 20+ billion dollars to be spent to build a new CMRR at LANL so that new plutonium pits can be designed and built absurd, given that existing pits have been evaluated to last essentially indefinitely, so that there would be adequate time to build new pits at the first sign of the deterioration of present pits. And even then, what is the need for a new design for something with a very long life that hopefully and probably will never be used. What example does this set for the rest of the world as we on the other hand try to evolve into a nucler free world? The US and the Russians have more than adequate nuclear arsenals to defend ourselves if not the world. We have no need for an updated CMRR, let alone one built on a seismic fault line in an area prone to fires as presently now are burning near Los Alamos. I recognize that money should be spent to maintain scientists and engineers as myself with nuclear capabilities that might be required should our present nuclear capabilities and equipment deteriorate, but that is not an issue at present, Should it become an issue for whatever reason that I am currently unaware of, then there would be more than enough time to deal with this issue, given the speed with which LANL and Livermore were able to respond during WWII. The money to support our nuclear labs should be devoted to new technology to aid the evolving world, such as global warming and newer and safer energy producing resources, as well as health and information technology and other issues that hopefully will come about with government research funding.

Thank you for providing me the opportunity to express my views, however late they might arrive.

Richard Miller (PhD UC Berkeley, MBS MIT)

321-1 NNSA acknowledges the commentor's concerns regarding costs but notes that the estimated cost for the CMRR-NF is $3.7 billion to $5.9 billion (DOE 2011b). The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility.

Seismic issues are addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the

Commentor No. 321 (cont'd): Richard Miller

proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 322: rikistevens@cybermesa.com

From: rikistevens@cybermesa.com
Sent: Monday, July 04, 2011 10:04 PM
To: NEPALASO@doeal.gov
Cc: rikistevens@cybermesa.com
Subject: Re: New plutonium project
Importance: High

Dear Lab Director: Recent danger to LANL should have provided enough evidence that new and/or more plutonium facilities could have even more negative effects than what we already have seen this week. Other countries are now discontinuing nuclear facilities because recent events in Japan and here have given cause for real concern. STOP NOW>

322-1

322-1 NNSA notes the commentor's opposition to plutonium facilities at LANL. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Regarding the accident that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 323: Stephanie Hiller

From: Stephanie Hiller [hiller.stephanie@gmail.com]
Sent: Tuesday, July 05, 2011 12:18 AM
To: NEPALASO@doeal.gov
Subject: CMRR SEIS

323-1

I am opposed to the construction of the CMRR as planned, and to the use of this SEIS to support the chosen design, for several reasons, but the main reason is that I do not believe the United States needs to manufacture more plutonium pits for new or "modernized" nuclear weapons. We have enough pits and we have enough weapons. I thought we were committed to eliminating these weapons in accord with Article 6 of the Nuclear Nonproliferation Treaty! Modernization of our weapons threatens to alarm Russia and inspire other nations to do the same, as I believe is already occurring amongst the nuclear weapons states.

This is insane. We already know that nuclear weapons in the hands of terrorists are a threat to our survival. The idea that making more or better weapons serves as an effective deterrent has been disproved.

Deterrence is an outdated theory that does not apply to the current geopolitical situation -- if it ever worked at all.

Since the CMRR is clearly intended to make more weapons possible, at terrific cost to the taxpayer, and with unacceptable seismic risk, and because it will use more of our precious resources, especially water, I urge you to declare the SEIS incomplete and unacceptable, cancel the project, and find more useful ways to spend $6 billion.

Thank you.

Stephanie Hiller
writer
Santa Fe, New Mexico

323-1 NNSA notes the commentor's opposition to the CMRR-NF project and pit production. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Seismic issues are addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the

Commentor No. 323 (cont'd): Stephanie Hiller

International Building Code so that the facilities remain safe in the event of a large earthquake.

Regarding funding priorities, decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 324: Benjamin Abbott

From: Benjamin Abbott [benjamin.abbott@gmail.com]
Sent: Tuesday, July 05, 2011 8:30 AM
To: NEPALASO@doeal.gov
Subject: Comments on CMRR-NF SEIS

Hello,

I'm emailing to express my opposition to the Chemistry and Metallurgy Research Replacement (CMRR) Project. Spending billions on new pit production is a slap in the face to everyone suffering in this country. It only be benefits the corporations involved; the rest of us have to pay and live with the risk of environmental contamination. The project can accomplish nothing positive. The last thing we need is more weapons of mass destruction. *324-1*

Sincerely,

Benjamin Abbott
UNM American Studies PhD Program

324-1 NNSA notes the commentor's opposition to the construction and operation of the CMRR Project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the commentor's concern about the funding priorities of the U.S. Government, funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA acknowledges the commentor's concern about environmental contamination risk. Chapter 4 of the *CMRR-NF SEIS* provides the environmental impacts analysis, which evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area. The analysis indicates that the risk of environmental contamination is limited to extremely unlikely accident events.

Commentor No. 325: Joanne M. Roberts

From: Joanne Roberts [litlfut@comcast.net]
Sent: Monday, July 04, 2011 1:44 PM
To: NEPALASO@doeal.gov
Subject: Withdraw the Proposed Nuclear Facility of the Chemistry and Metallurgy Research Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL)

Hello,

I urge you to withdraw the draft Supplemental Environmental Impact Statement (draft SEIS) for the Proposed Nuclear Facility of the Chemistry and Metallurgy Research Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL)

The National Environmental Policy Act (NEPA) requires a federal agency to provide a range of alternatives. DOE has not provided viable and workable alternatives. *325-1*

The draft SEIS misrepresents the seismic hazard at the location of the proposed CMRR–Nuclear Facility is of great concern. *325-2*

The draft SEIS demonstrates that DOE will continue to waste water for manufacturing nuclear weapons; create more radioactive, hazardous and toxic waste; spew pollution into the air; and exceed its existing electric power needs. *325-3*

Please withdraw the draft EIS on this project.

There are other better alternatives.

Sincerely yours,

Joanne. M.Roberts
116 Fairview Ave. E. # 403
Seattle WA
98109

325-1 NNSA notes the commentor's opinion that the *CMRR-NF SEIS* does not provide a range of viable and workable alternatives. The SEIS was prepared in accordance with NEPA, as amended (42 U.S.C. 4321 et seq.), as well as CEQ regulations and DOE NEPA implementing procedures codified in 40 CFR Parts 1500–1508 and 10 CFR Part 1021, respectively. Chapter 1, Section 1.4, of the *CMRR-NF SEIS* identifies the three alternatives analyzed in the SEIS. These alternatives are addressed in more detail in Chapter 2, Section 2.6. Section 2.7 of the SEIS provides a discussion of alternatives that were considered and dismissed from detailed analysis. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

325-2 Seismic issues are addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. This section was updated for the *Final CMRR-NF SEIS*. Subsequent to the original proposal of the CMRR Facility and preparation of the *2003 CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazard analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve.

325-3 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water

Commentor No. 325 (cont'd): Joanne M. Roberts

Resources and Usage, of this CRD for more information on water resources at LANL.

Sufficient capacity exists at LANL or at offsite facilities to dispose of all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. As summarized in Chapter 2, Table 2-3, no air quality standards would be exceeded.

Electrical power impacts are addressed in Chapter 4, Section 4.2.3, 4.3.3, and 4.4.3, of the SEIS. Options for adding to or modifying the existing electrical distribution at LANL to support the requirements of the proposed CMRR-NF are analyzed in the SEIS (for example, adding an electrical substation in TA-50).

Commentor No. 326: Lisa Adkins

From: Lisa Adkins [annalisa.adkins@comcast.net]
Sent: Tuesday, July 05, 2011 9:29 PM
To: nepalaso@doeal.gov
Subject: In support of CMRR

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager
U.S. Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, TA-3, Building1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeier:

I have lived in Santa Fe, New Mexico for over 30 years. This email is in support for the construction of the Chemistry and Metallurgy Research Building Replacement (CMRR) Project and the "Preferred Alternative" as described in the draft Supplemental Environmental Impact Statement.

I believe the completion of such a project will provide a significant economic boost to Santa Fe, northern New Mexico and the Los Alamos National Laboratory, which is especially important to the long term health and vitality of New Mexico.

326-1

The existing Chemistry and Metallurgy Research (CMR) Building was built nearly 60 years ago and needs to be replaced with a modern facility meeting current design requirements. I, and many other Santa Feans, fully support the replacement facility and urge that its construction be started at the earliest possible opportunity.

Lisa Adkins
2631 Via Berrenda
Santa Fe, NM 87505

326-1 NNSA notes the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative and the Modified CMRR-NF Alternative would require a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 327: Ken Adkins

From: kenneth.adkins@comcast.net
Sent: Tuesday, July 05, 2011 8:56 PM
To: nepalaso@doeal.gov
Subject: Santa Fe supports LANL and CMRR!

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager
U.S. Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, TA-3, Building1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeier:

I am a 20-year resident of Santa Fe, New Mexico. This email is in support for the construction of the Chemistry and Metallurgy Research Building Replacement (CMRR) Project and the "Preferred Alternative" as described in the draft Supplemental Environmental Impact Statement.

Completion of such a project will provide a significant economic boost to Santa Fe, northern New Mexico and the Los Alamos National Laboratory, which is especially important to the long term health and vitality of the state of New Mexico. ***327-1***

The existing Chemistry and Metallurgy Research (CMR) Building was built nearly 60 years ago and needs to be replaced with a modern facility meeting current design requirements. I, and many other Santa Feans, fully support the replacement facility and urge that its construction be started at the earliest possible opportunity.

Ken Adkins
2631 Via Berrenda
Santa Fe, NM 87505

327-1 NNSA notes the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative and the Modified CMRR-NF Alternative would require a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Commentor No. 328: Amy Gup

From: a gup [ajgup18@yahoo.com]
Sent: Tuesday, July 05, 2011 4:13 PM
To: NEPALASO@doeal.gov
Subject: cmrr nuclear facility project

please, for the sake of all the people's of new mexico, do not build this facility. *328-1*

thank you
amy gup
new mexico resident

328-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 329: Katherine Franger

June 21, 1011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Dear Mr. Tegtmeir:

I am writing to protest the proposed Chemistry and Metallurgy Research Replacement Project in Los Alamos.

CMRR would be built near a fault line, thus exposing this project to a disaster much worse than Fukushima or Chernobyl. The billions of dollars added t the original 2004 estimate apparently is supposed to address this, but no amount will prevent a huge disaster in the event of an earthquake in the area over 7 on the Richter Scale. *329-1*

The US already has more "Plutonium Pits" than could ever be used (God forbid). Increasing the production from 20 pits per year to 80+ per year is another way of using taxpayers' money for unnecessary projects. *329-2*

This foolish, unnecessary, and unbelievably costly project should be stopped and abandoned immediately. *329-1 cont'd*

Sincerely,

Katherine Franger
820 Sevely Drive
Mountain View, CA 94041

CC: Senator Dianne Feinstein
Senator Barbara Boxer

329-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMFF-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF. For more information, refer to Section 2.6, Seismic and Geologic Concerns, of this CRD.

Regarding an accident like that at the Fukushima Daiichi Nuclear Power Plant, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

329-2 A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2,

Commentor No. 329 (cont'd): Katherine Franger

Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 330: Mary vanderBerg Green

06/28/2011 12:19 FAX 5757511300 SOUTHSIDE 002

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544 or fax: (505) 667-5948; or e-mail: NEPALASO@doeal.gov

This building was first designed in 2004 and the world has changed greatly since then a SEIS does not adequately assess the impacts of this proposal.
I request a complete and new EIS. 330-1

A request for an estimated $6B building at a time when FUKUshima has happened, and two US reactors are in the midst of floods while Los Alamos is burning in a forest fire at this very summer? is unacceptable and must not be taken on by the taxpayers of our nation. 330-2

Mary van der Berg Green
PO Box 1779, Taos, NM 87571
[redacted] - [redacted] - [redacted]

CMRR-NF Hearings:
Tues. May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos
Wed. May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola
Thu. May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave., Santa Fe
View or download SEIS document: http://www.nepa.energy.gov or http://www.nnsa.energy.gov/nepa/cmrrseis

330-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

330-2 NNSA notes that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could not happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 331: Ann Mattingley

06/28/2011 12:29 FAX 5757511300 SOUTHSIDE 001

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544 or fax: (505) 667–5948); or e-mail: NEPALASO@doeal.gov

Deadline June 28, 2011

I request that you please Complete a new and complete SEIS before considering building a new plutonium pit production complex in Los Alamos, NM

thank you, concerned citizen

Mattingley

ANN MATTINGLEY

HC81 BOX 6027

Questa, NM 87556

[redacted]-[redacted]-[redacted]

6/28/11

CMRR-NF Hearings:

Mon, May 23, 5 to 9 p.m. Albuquerque Marriott, Salon F, 2101 Louisiana NE (Louisiana & I-40), Albuquerque

Tues, May 24, 5 p.m. to 9 p.m. Holiday Inn Express, 60 Entrada Dr., Los Alamos

Wed, May 25, 5 p.m. to 9 p.m. Santa Claran Hotel, 464 N. Riverside Dr., Espanola

Thu, May 26, 5 p.m. to 9 p.m. Santa Fe Community College, Jemez Rooms, 6401 Richards Ave., Santa Fe

View or download SEIS document: http://www.nepa.energy.gov or http://www.nnsa.energy.gov/nepa/cmrrseis

331-1

331-1 Comment noted. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 332: Spencer Floyd

06/28/2011 12:30 FAX 5757511300 SOUTHSIDE 002

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544 or fax: (505) 667-5948); or e-mail: NEPALASO@doeal.gov

Deadline June 28, 2011

This fire is a wake up call to stop the continued development of nuclear weapons at LANL. Please end the insanity.

6/28/2011

Spencer Floyd
HC 81 Box 6027 (14 North Star Rd)
Questa NM 87556
[redacted]

CMRR-NF Hearings:
Mon. May 23, 5 to 9 p.m. Albuquerque Marriott, Salon F, 2101 Louisiana NE (Louisiana & I-40) Albuquerque
Tues. May 24, 5 p.m. to 9 p.m. Holiday Inn Express, 60 Entrada Dr., Los Alamos
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View or download SEIS document: http://www.nepa.energy.gov or http://www.nnsa.energy.gov/nepa/cmrrseis

332-1

332-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 333: Renné Hardy

Jun 26 11 10:03a p.1

[redacted]

Attn: MR JOHN TEGTMEIR

I would like to submit the following comment

I AM IN OPPOSITION to PLUTONIUM PIT PRODUCTION AT LOS ALAMOS

1. Re EIS -
need an EIS not S-EIS
to study: seismic issues (May 2007 updated seismic eval) and unstable geological strata

333-1

2. Re Cleanup @ "Legacy Sites"
this cleanup should be addressed first

333-2

3. Exploration of other alternatives
1. NO ACTION
2. upgrading existing CMR bldg

333-3

Thank you! Rennie Hardy
124 E Bent St
Taos NM 87571

333-1 NNSA notes the commentor's opposition to pit production at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

333-2 In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to

Commentor No. 333 (cont'd): Renné Hardy

be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

333-3 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967). In response to public comments, additional information was added to Chapter 2, Section 2.7 of the *CMRR-NF SEIS*. Refer to Section 2.11, Alternatives Considered, of this CRD for additional information.

Commentor No. 334: Elana Sue St. Pierre
Healthy Water NOW ASAP

Healthy Water NOW ASAP
Elana Sue St. Pierre OTR/L
Santa Fe New Mexico 87505
6-21-11

Mr. John Tegtmeier, CMRR–NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road,
TA–3 Building1410,
Los Alamos, New Mexico, 87544,

Respectfully, Earnestly, and Truthfully to the Powers that Be

I am writing as Spokes Woman for Healthy Water NOW ASAP a growing network of over 300 parents of children with developmental disabilities (often genetically related), pediatric therapists, early childhood interventionists, child advocates, midwifes, dulas, nurses, and physicians . We are speaking out for the voiceless children whose lives will hold all decision makers accountable in days yet to come regarding the nuclear bomb factory(Chemistry and Metallurgy Research and Replacement Nuclear Facility --CMRR) which is now being seriously questioned .

As humanity, as a world society, grows and our consciousness expands strategic rational for war and national defense must evolve to protect our human potential and to meet the true threats of our national security. In the days proceeding Aug and Sept 1945 when the first weapons of mass destruction were unleashed on helpless pregnant women and children, it was a war strategy that met the needs of the that Cold War Era. War and surrender was based on killing as many civilians as possible to force the governments fueling the war into submission. The massive massacre that the nuclear bombs created ended the war yet the nuclear fallout from these bombs continues to affect all our lives in deep invisible ways. In these early days of the nuclear age the effects of global contamination and health effects over generations of lives were not understood.

We now understand that nuclear fall out is carried in the soil which becomes our own nations contaminated food , it blows in the wind carried beyond all countries' boundaries, and it contaminates our living water which becomes waters within the womb birthing lives plagues by deformity, sickness and death through generations. Civilian deaths from the "little boy" and the" fat boy' (code names for these first nuclear weapons of mass destruction) continue today in Japan. For within the ovaries of the first surviving women exposed to the nculear bombs where the eggs of their grandchildren who today experience third generation genetic birth defects.

There is no old or new and improved nuclear bombs which can protect civilian populations , our sole/soul justification for our involvement in the Lybian War. Today the Kamikaze fighters have left their planes abandoning their cause....Japan now fights an internal nuclear catastrophe. Terrorism, the threat of this decade, is fought undercover of secret missions and all nuclear facilities have become potential targets with inadequate protections from terrorism attack. Hitler's bones have turned to dusts and the race to create bigger and better killing "Gadgets" no longer serves a propose of national defense but rather creates potential national disasters. Germany now leads the way away from the nuclear age transforming their nuclear foot prints into alternatives.

The nuclear foot prints of this nation's first weapon of mass destruction lies hidden in secret files,documents and the nuclear wasted buried in the canyons between Los Almos and the Rio Grande, our communities major source of water. Less than 100 yards from the intake of this *334-1*

334-1 NNSA notes the commentor's concerns about downstream and downwind contamination from LANL and the effects on human health. It is NNSA policy to conduct operations in a manner that ensures the protection of public health and safety and the environment through compliance with applicable Federal, state, and local laws and regulations, DOE Orders, and other requirements. LANL operations are subject to all of these requirements. Chapter 5 of the *CMRR-NF SEIS* describes the environmental laws and regulations that apply to the CMRR-NF operations.

Some LANL operations may result in the release of radioactive materials to the air through a stack or other forced air release point (called point sources). Limits or requirements for these emissions are set forth in the Clean Air Act, specifically the National Emissions Standards for Hazardous Air Pollutants for DOE facilities. Under these regulations, radioactive air emissions from LANL must be controlled to ensure that no member of the public receives an effective dose equivalent of 10 millirem per year.

Impacts on surface water can be caused by industrial outfalls, stormwater runoff, dredge and fill activities, or sediment transport. LANL has one sanitary outfall and 14 industrial outfalls; effluents from LANL facilities are discharged in accordance with a National Pollutant Discharge Elimination System permit that establishes limits on the volume and quality of the discharge. These outfalls are sampled weekly, monthly, or quarterly, as specified in the permit, to analyze effluents for compliance with permit levels. Over the past 5 years, LANL has maintained an average rate of compliance with industrial permit conditions of 99.5 percent. LANL also had a 93 percent compliance rate with National Pollutant Discharge Elimination System stormwater requirements at its permitted construction sites (LANL 2006a).

The Albuquerque water utility has monitored the Rio Grande by collecting and testing samples at various sites from the Heron Reservoir along the river to Albuquerque for metals, minerals, nutrients, organic substances, and radionuclides (City of Albuquerque 2006). The river water meets EPA drinking water standards for all of these substances (specifically, the levels of radionuclides are far below the EPA standards).

Regarding the Buckman well field, in 2006, LANL staff collected a groundwater sample from Buckman Well #1 as part of routine quarterly sampling that is conducted at three water-supply wells in the Buckman Well Field. This sampling

Commentor No. 334 (cont'd): Elana Sue St. Pierre
Healthy Water NOW ASAP

community's water supply lies traces of plutonium and radioactive heavy metal buried only three foot deep within the Buckman well field along the banks of the Rio Grande. Current radioactive clean up standards and methods for radioactive cleanup do not protect us. These silent yet deadly nuclear foot prints may be seeping into our life giving limited water resources . The air we breath and soil that grows our food radiates background contamination from these nuclear bombs, nuclear foot prints of the nuclear age threatening our national security, as well as, the immediate health and safety of this down wind/down stream community.

334-1 cont'd

We currently are in a sever drought. This proposed bomb factory would use over 326,000gallons of our water need for growing food and supporting lives. Where would the water needed for cooling a melt down or accident come from? Although we face the same Earthquake threats that Japan now faces we do not have a near by ocean to keep pumping water at an unsolvable catstrophe for indefinite periods of time.

334-2

The degrading current nuclear facility at LANL, situated on our active fault line, needs to be rendered inert and safe with full bio remediation of the site. Yet where is the research, technology and funding to do so? Degrading stock piles and contamination sites of deadly nuclear wastes threaten every state of our great nation and has spread across the face of our planet...all originating from here. LANL and DOE lack funding for research and development for alternative bio remediation of the nuclear contamination that originated here. When will our world's greatest scientists again gather here to find the true solutions that can transmute our nuclear foots prints one step at a time? The time can be NOW.

The nuclear age has served the purpose of teaching us that the true threat to national security can no longer be met by weapons of mass destruction . The true threats to our national security are now being caused by creations of our own making.....environmental disasters due to uncontrollable weather patterns set out of balance by our unbridled carbon foot prints and the earth quaking.... , shifting entire continental shelves where our nuclear foot prints lie buried within our ignorance and failure to move beyond the consciousness of nuclear war. The consciousness of mass destruction no longer serves our national security or defense strategies. The budget of 3 billions dollars for improving nuclear bombs can to be totally redirected toward a resurgence of nuclear research for life supporting bio remediation.

334-3

We intend that all funding for this bomb factory((Chemistry and Metallurgy Research and Replacement Nuclear Facility --CMRR) be redirected toward bio remediation of the growing nuclear contamination that already threatens us. We intend there be a re-evaluation that prevents any nuclear bomb factory (CMRR) from being created in this water scarce and seismographicly active region. A few years back the Pecos River flowed backwards due to an earthquake. The Valla Caldera was created when the planets largest mountain was blown to pieces from the Earth quaking. And we all quake to think that our world's best scientist would plan to store over 13,000lbs of plutonium in this unstable area. We ask that lessons form past mistakes move forward with greater insight in a new directions using the billions of dollars ear marked for this disastrous plan be re-directed for bio-remediasion and alternative energy research.

Respectfully, Earnestly,and Hopefully
Visioning a Nuclear Free Future for The Children
Healthy Water NOW ASAP
Spokes Woman :Elana Sue St. Pierre OTR/L
6-21-11

Elana Sue St Pierre OTR/L

is performed pursuant to a cooperative agreement with the City of Santa Fe. The samples were sent to an independent laboratory for radiochemistry analysis where it was reported that they detected plutonium-238 at a level about 3 percent of the DOE concentration guide for water ingestion. However, after recent reviews of legacy data by LANL staff and further discussions with the analytical laboratory, the laboratory has confirmed that computer analyses of the results were incorrect. The laboratory concluded that plutonium-238 was *not present* in the sample from Buckman Well #1. No further reports of plutonium detection have occurred since this occurrence in 2006 (LANL 2011e).

334-2 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4–17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

334-3 Regarding the commentor's statements about research, technology, and funding related to bioremediation, these subjects are not within the scope of the *CMRR-NF SEIS*. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 334 (cont'd): Elana Sue St. Pierre

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMFF-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF. The CMRR-NF would be designed, constructed and operated in accordance with applicable regulations and standards for environment, health, and nuclear safety (including seismic standards).

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect the workers and public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. The potential environmental impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10 of the *CMRR-NF SEIS*.

Commentor No. 335: Mary M. Koponen

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: June 22, 2011

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

Good day.

Glad to hear your budget has been cut some, unfortunately the cleanup has been cut too.

335-1
I would prefer: (1) NO NEW BUILDING be built; (2) PRODUCTION HALTED; (3) ALL FUNDS GO TO CLEAN UP; (4) NO MORE WASTE BE ~~TRANS~~ MADE OR TRANSPORTED ON OUR HIGHWAYS.

PLEASE USE THE GREAT MINDS AT LOS ALAMOS TO HELP OUR PLANET WHICH IS OUR HOME.

335-2
CLIMATE CHANGE IS REAL AND MUCH MORE THREATENING THAN ANY TERRORIST THREATS. PLEASE HEED!

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Mary M. Koponen
Address/Dirección: PO Box 456
City, State, Zip Code/Ciudad, Estado, Zona Postal: Dixon NM 87527

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

335-1 NNSA notes the commentor's opposition to the CMRR Project and production and the suggestion that funds be directed to cleanup. In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Each of the alternatives would result in the generation of radioactive waste. Sufficient capacity exists at LANL or at offsite facilities to dispose of all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. As summarized in Chapter 2, Table 2-3, transportation impacts from waste transport would be small, with no latent cancer fatalities or traffic accident fatalities expected.

335-2 Comment noted.

Commentor No. 336: Dimitra Doukas, Ph.D.

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667-5948); or e-mail : ***NEPALASO@doeal.gov***.

336-1

OF COURSE THE CMRR-NF PROJECT REQUIRES A FULL EIS, AND A REAL ONE, BASED ON A NEW, PROFESSIONAL STUDY, WITH NEW DATA COLLECTION BY QUALIFIED SCIENTISTS FROM ALL RELEVANT DISCIPLINES – AS MANY AS POSSIBLE BEING NM RESIDENTS. TOO OFTEN AN EIS IS A BUREAUCRATIC RECYCLING OF OLD DATA, A "PLACEBO" FOR A PUBLIC WHOSE CONCERNS ARE VIEWED AS GROUNDLESS. NEW MEXICANS' CONCERNS ABOUT THIS PROJECT ARE NOT GROUNDLESS.

336-2

AS THE NUCLEAR DISASTER IN JAPAN THIS SPRING SHOULD SHOW US – NUCLEAR FACILITIES MUST NOT BE SITED IN SEISMIC FAULT ZONES. NEW MEXICANS ARE ABSOLUTELY RIGHT TO RESIST THE SENTENCE THAT GREED AND NATURAL UNPREDICTABILITY HAVE PASSED ON THE JAPANESE PEOPLE. A SCIENTIFICALLY HONEST EIS HAS TO CONCLUDE THAT THE PROPOSED SITE CANNOT SUPPORT A NUCLEAR FACILITY AND THAT THIS PROJECT AS PROPOSED MUST NOT GO FORWARD. – DIMITRA DOUKAS, PH.D.

DIMITRA.DOUKAS@GMAIL.COM

CMRR-NF Hearings:
Tues, May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos.
Wed, May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola.
Thur, May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave, Santa Fe.
View or download SEIS document : http://www.nepa.energy.gov *or* http://www.nnsa.energy.gov/nepa/cmrrseis

336-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information. The *CMRR-NF SEIS* was prepared using the most current information about LANL and the CMRR project.

336-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground

Commentor No. 336 (cont'd): Dimitra Doukas, Ph.D.

motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 337: Jean Richards

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: June 22, 2011

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

We need a comprehensive EIS from the EPA, not this hurried SEIS prepared to combat the Los Alamos Study Group's suit. **337-1**

And of course, many of us in Taos who are 60 miles downwind from Los Alamos wish the scientists up there would turn their attention to renewable energy, and a way to safely extract nat. gas as well as medicinal treat this ie Parkinsons. We do not need more nuclear warhead projects!! Also put their brains on what to do with the nuclear waste at all of our plants. That would make sense!! **337-2**

Thank you!

I have attended meetings in Los Alamos, Taos, and also the Alb. lawsuit on this subject

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Jean Richards
Address/Dirección: PO Box 310,
City, State, Zip Code/Ciudad, Estado, Zona Postal: Arroyo Seco NM 87514

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

337-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Also, in accordance with NEPA regulations, NNSA is the agency responsible for preparing the SEIS. Refer to Section 2.2, NEPA Process, of this CRD for more information.

337-2 NNSA notes the commentor's opposition to projects related to nuclear warheads. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 338: Virginia J. Miller

From: Virginia J Miller [vjmopus@cybermesa.com]
Sent: Tuesday, July 05, 2011 6:04 PM
To: NEPALASO@doeal.gov
Subject: No. 2 Comments on the draft SEIS for proposed CMRR-NF at LANL

John Tegtmeier, CMRR-NF
SEIS Document Manager
NNSA Los Alamos Site Office
Los Alamos, New Mexico

338-1

I just learned that there is a seventh key parameter that must be investigated at the CMRR-NF LANL site, in addition to the six I mentioned in my comments submitted last week. It is the shear velocity of the the reference rock, which is dacite. Field studies must be conducted, as also recommended several times by LANL scientists, but not carried out, in order to obtain accurate information of the seismic hazard. Plutonium particles are deadly.

It is utterly foolhardy to build an unnecessary plutonium facility in an earthquake zone not far from a volcano and in an area threatened by dangerous wildfires every few years due to serious drought conditions.

It is imperative that we divert funding for the CMRR-NF to the thorough cleanup of radioactive, toxic and hazardous wastes at LANL that will help protect our health and environment in northern New Mexico including the Rio Grande and our watersheds and the sacred sites of Pueblo people. Clean water is life. Thank you.

Virginia J. Miller
125 Calle Don Jose
Santa Fe NM 87501

338-1 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The 2007 and 2009 probabilistic seismic hazard analyses represent the best knowledge to date on the seismic hazard at LANL, with the uncertainties, such as the shear velocity in dacite, appropriately incorporated. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Chapter 3, Sections 3.5.1 and 3.5.5, and Appendix C have been revised to add information regarding volcanic hazards. The analysis of seismic events provides a conservative estimate of potential consequences that would be comparable to the impacts associated with volcanic events.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For

Commentor No. 338 (cont'd): Virginia J. Miller

the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 339: Jose A. Cisneros

From: Jose Cisneros [joseacisneros@aol.com]
Sent: Tuesday, July 05, 2011 10:03 PM
To: NEPALASO@doeal.gov
Subject: Draft CMRR-NF SEIS Comments

Mr. John Tegtmeir, CMRR-NF SEIS Document Manager
U/S> Department of Energy

National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road, TA-3 Building 1410
Los Alamos, New Mexico, 87544

Dear Mr. Tegtmeier,

As a retired career employee of the National Park Service, I have a long association with the Los Alamos National Laboratory beginning in 1973 when I worked in the Southwest Regional Office of the Park Service in Santa Fe. I later served as Superintendent of Bandelier National Monument in the late 1980's during which time I worked closely with our neighbors at the Laboratory. As you may know, Bandelier National Monument housed many of the employees of the Laboratory in its early years. That has become an important component of the Monument's administrative history and one of which we are proud of.

The Laboratory has served as an important component of the economy of New Mexico since its beginnings in addition to its work on the nuclear component of this country's defense mechanism. It is because of this partnership that I write to support the planned construction of the Chemistry and Metallurgy Research Building Replacement Project and its "Preferred Alternative" as described in the draft Supplemental EIS. After 50 years of use, the Chemistry and Metallurgy Research Building is due replacement and modernization. I applaud your efforts to proceed with its construction. *339-1*

Jose A. Cisneros
2611 Via Caballero Norte
Santa Fe, NM 87505

339-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

Commentor No. 340: Nona Lee Gregg

TO: Mr. John Tegtmeier, CMRR–NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA–3 Building1410
Los Alamos, New Mexico, 87544

As a member of impacted communities from the nuclear weapons industrial complex, I wish to express my opposition toward the proposed CMRR-NF SEIS (Chemical Metallurgy Research and Replacement Nuclear Facility, Supplemental Environmental Impact Statement) based on the following:

• A **new** environmental impact statement (EIS) needs to be created because the current supplemental EIS does not cover the changes in size, cost (4.5 billion and rising), and scope. *340-1*

•Environmental standards need to be held to **highest level** of nuclear safety regulations. *340-2*

• I am in **solidarity** with Santa Clara Pueblo's Tribal Resolution No. 08-16, which opposes the expansion of plutonium pit production at LANL (Los Alamos National Laboratory) and making that production capacity permanent through this complex. *340-3*

• The current SEIS **does not** adequately address the increased seismic dangers, unstable geological strata, storm runoff contamination, and fire risks that exist with the proposed location. *340-4*

• Expansion in proposed plans would only add to the 60+ years of legacy waste contamination in NM and should **not be allowed** until clean up is addressed in accordance with the 2005 consent order with the NMED (New Mexico Environmental Department). *340-5*

• Money spent on unusable nuclear weapons **does not** support or spur economic growth, but goes straight into corporate pockets, depriving local communities of federal funds. *340-6*

Additional Comments:

Printed Name: Nona Lee Gregg
Signature: Nona Lee Gregg Date: 5/26/11
Email:
Mailing Address: 3471 Cerrillos Rd #69, Santa Fe, NM 875

340-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

340-2 All proposed new DOE facilities are required to be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment.

340-3 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

340-4 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region

Commentor No. 340 (cont'd): Nona Lee Gregg

were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The *CMRR-NF SEIS* does address the potential for storm runoff. LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Storm Water Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. As described in the SEIS, there are plans for temporary and permanent detention ponds for the proper management of stormwater runoff.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Commentor No. 340 (cont'd): Nona Lee Gregg

340-5 Note that cleanup activities are not within the scope of the *CMRR-NF SEIS*. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

340-6 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. See Section 2.7, Economic Impacts, of this CRD for information on the economic impacts as evaluated in the *CMRR-NF SEIS*.

Commentor No. 341: Emily Koponen

To the Proposed CMRR comment June 16, 2001

#1) I support NO alternative which is to NOT build and to clean up the decrepid TA-55 that exists!

#2) I want the $180 Billion for "modernization" of nuclear sites to be spent on

all new funding

1. Education (Schools, teachers, libraries and materials and transportation)
2. Public Transportation
   Rapid transit trains
   bike paths
   ecological buses
   safe footpaths
3. Organic Agriculture
   no more use of pesticides
   clean fresh organic
   no more poison in food
4. Sustainable Alternative Energy
   water power
   solar + wind
   off grid support

NEEDS funding & away from All Nuclear coal + gas

341-1

341-1 NNSA acknowledges the commentor's position. Note that the estimated cost for the CMRRNF that is the subject of this SEIS is $3.7 billion to $5.9 billion (DOE 2011b). Cleanup of TA55 as suggested in the comment is not within the scope of the *CMRRNF SEIS*.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRRNF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. See Section 2.7, Economic Impacts, of this CRD for information on the economic impacts as evaluated in the *CMRRNF SEIS*.

Commentor No. 341 (cont'd): Emily Koponen

4) Alternative/Sustainable Energy
use of humanure for power
(No more flush toilets)

5) Health
Single payer health care
preventative medicine
away from Pharmaceuticals

6) Social Structures
all areas above w/meaningful work + good pay
youth research centers
trollies
gathering places ...

anon ...

The financial destruction robbery and poisoning could be so better spent!

Light to you!

Emily Koponen
Dixon N.M.
87527

341-1 cont'd

Response side of this page intentionally left blank.

Commentor No. 342: Gary Vogt

5065 Wolverton Drive
Florissant, MO 63033
June 16, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr Tegtmeier:

This is the time to do everything possible to eliminate all nuclear weapons from the face of the earth. Yet the proposed CMRR would expand the production of plutonium pits, the triggering devices for thermonuclear bombs.

This is a huge failure of morality, dangerous beyond belief and should be haulted at once! Instead of creating more of these triggers, the ones we now have should be destroyed, the plutonium mixed with large amounts of waste and the resulting material buried miles beneath the surface.

To spend anything on creating these triggers is obscene, and all the more so to spend billions at a time of budgetary crisis. Redirect necessary funds to the destruction of our stockpile and return the rest to the Treasury. Our leaders must halt the mad arms race against ourselves, and show the way to fortitude and confidence, not fear!

Since willingness to build these hellish devices shows an enormous disregard for human life, it is not surprising you care so little for American lives that you would build the CMRR in a seismic fault zone. Plutonomium is one of the most toxic substances known to science, and you risk its release with your foolhardy scheme. Once released it will be uncontainable and virtually everyone who is contaminated will die a horrible death.

342-1

Stop this horror now!

Gary Vogt

Gary Vogt

342-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMFF-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Commentor No. 343: Janice Flahitt

Janice Flahitt
2032 Lehman Ave
Toledo, OH 43611

OH-102
TOLEDO, OHIO
A beautiful night view of downtown Toledo during the Freedom Festival Celebration.
Photo by Greater Toledo Convention & Visitors Bureau

A PERRIN PRINT

Perrin Souvenir Distributors, Grand Rapids MI, Phone (616) 459-5866

Dear Mr. Tegtmeir,

It is very alarming to read about the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos.

The current projected $5.86 billion cost in itself is something our nation cannot afford. The strong possiblities of disasters in the future due to a nearby (2/3 mile) fault line also indicate a project which needs to be canceled. There is also a strong possibility radioactive contamination from the lab contaminating Santa Fe's water supply. Again, the costs to our citizens in terms of money, safety, and health is too great to construct CMRR. 343-1

Please cancel.

Thank you ~~for~~ listening
Janice

America

POST CARD

Mr. John Tegtmeir 14 JAN 11 11:26A
US DoE/NNSA Los Alamos site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

PLEASE DO NOT WRITE BELOW THIS LINE. SPACE RESERVED FOR U.S. POSTAL SERVICE

343-1 NNSA notes the commentor's opposition to the CMRR Project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Storm Water Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Storm Water Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment. All radioactive liquids would be transferred to RLWTF. At RLWTF, the liquids would be treated to meet discharge criteria and released through a permitted outfall or to a zero liquid discharge facility. Other liquids would be routed to the Sanitary Wastewater Systems Plant, where they would be treated prior to discharge through a permitted outfall.

Commentor No. 344: Mary L. Geraets

1500 N 2nd St.
Aberdeen, SD 57401-1238
June 16, 2011

Greetings, Mr. John Tegtmeir,

I am writing to tell you of my sincere hope that the CMRR project be cancelled, and a study of LANL+ plutonium should be required, including existing & future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CRR must be determined. Thank you.

Sincerely,
Mary L. Geraets

344-1

344-1 NNSA notes the commentor's opposition to the CMRR project. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decision regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Commentor No. 345: Paul Helbling

June 15, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Fax: 505-667-5948

Dear Sir:

If the US government has 15,000 Plutonium pits already in storage and the ability to add 20 per year to this inventory, why does the government need a new Chemistry and Metallurgy Research Building (CMRR) to build 80 plus Plutonium pits per year?

Common sense, in my opinion, would suggest that a new CMRR is not needed.

Especially since, the new enemy facing the security of our country is our national debt. Please pray on this issue. Help our country balance our budget with sound finical decisions in order to control the national debt if not for us then our grandchildren and great grandchildren.

345-1

Our prayers are with you on this issue.

Paul Helbling
T606 St. Rt. 109
Liberty Center, Ohio
43532-9720

[redacted]

kandpinohio@embarqmail.com

345-1 NNSA notes the commentor's concern that the CMRR-NF may not be needed, and concerns about pit production and funding priorities. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 346: Rose Bernadette

6-16-11

Mr. John Tegtmeier

I am strongly concerned for our nations protection, peace and economic growth.

In relation to the CMRR project I am asking that this project be cancelled. There needs to be a study of LANL's plutonium + infrastructure should be required including existing + future capability needs + cost retaining + upgrading safety features at the existing CMR. Thank You Rose Bernadette

346-1

346-1 NNSA notes the commentor's opposition to the CMRR-NF project. NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Commentor No. 347: Pat Prunty

6/19/11

Mr Tegtmeier,

I am writing you to request that the CMRR project be canceled, a study of LANL's plutonium infrastructure be required, and a realistic cost study for maintaining and upgrading safety features at the existing CMR be determined.

347-1

I am very concerned about increasing our nuclear arsenal, the cost of building and maintaining nuclear weapons, and the long range effect they have on the land, people and our global image. My appeal comes from a need to support the position of America as a global leader in humanitarian issues. I feel we can be much more involved as peacemakers than we are.

Sincerely,
Pat Prunty, pbom

347-1 NNSA notes the commentor's opposition to the CMRR-NF project. NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the U.S.'s nuclear weapons stockpile can continue to be managed safely. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and

Commentor No. 347 (cont'd): Pat Prunty

to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 348: Angela Walczyk

Mr. John Tegtmeir

U.S. DOE/NNSA Los Alamos site Office

3747 West JemezRoad

TA-3 Building 1410

Los Alamos, N.M. 87544

June 16, 2011

Dear Citizen:

I am writing in concern about the CMRR project.

It is my observation and research that says in conscience that the CMRR project should be cancelled.

We have examples in Japan, Hermoshima and Russia of the devastation of nuclear bombs.

Lets us not be so irresponsible as to repeat fatal acts of history.

348-1

Sincerely,

Angeline Walczyk

Angeline Walczyk

348-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The commentor's concern that an accident similar to that which occurred in Japan and Russia is addressed in Section 2.8, Nuclear Accidents, of this CRD.

Commentor No. 349: Doug Doran

JOHN,

PLEASE NOTE I'VE SENT MY ORIGINAL FORM TO THE PRESIDENT FIRST FOR HIS REVIEW AND (POSSIBLY COMMENT) I'VE ASKED THAT HE THEN SEND IT TO YOU

IN AN EFFORT TO COMPLY WITH YOUR SUBMISSION DATE OF JUNE 28TH I'VE SENT YOU THIS COPY OF MY COMMENTS WITH THE REQUEST THAT YOU ALLOW FOR POSSIBLE SLIGHT DELAY ON THE ARRIVAL OF THE ORIGINAL.

THANK YOU FOR YOUR UNDERSTANDING ON THIS

—Doug

Response side of this page intentionally left blank.

Commentor No. 349 (cont'd): Doug Doran

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: 6/20/11

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

I PICKED UP THIS COMMENT FORM AT THE PUBLIC HEARING ON MAY 26th IN THE JEMEZ ROOM AT SANTA FE COMMUNITY COLLEGE AND IN THE DAYS SINCE THEN HAVE BEEN PONDERING OVER HOW TO BRIDGE THE CHASM BETWEEN MY TRUE POSITION ON THE OVERALL PROJECT AND THE LIMITED COMMENTARY SET UP IN QUESTION 1, ABOVE, TO DO SOLELY WITH THE DRAFT SEIS. ACCORDING TO THE RANGE IN QUESTION 1., AS I UNDERSTAND IT, YOU WOULD NOT BE REQUIRED TO ENTERTAIN MY COMMENTS IF THEY FELL OUTSIDE THE PARAMETERS OF THE DRAFT SEIS. IF THIS IS THE CASE, THEN IT LEAVES ME IN THE DIFFICULT POSITION OF TRYING TO SATISFY BOTH THE OVERALL CONCERNS I HAVE AND, I PRESUME, YOUR INTEREST IN MY COMMENTS TO DO WITH THE PART OF THE CONCERN CALLED THE DRAFT SEIS. IN OTHER WORDS TO EXPRESS MYSELF IN WORDS WHICH ANSWER QUESTION 1. BUT ALSO ALLOW FOR THE EXPANSION OF THOUGHT WHICH I BELIEVE MY TRUE POSITION MIGHT REQUIRE. THE WAY IT'S SET UP I'M ASKED TO LIMIT MY COMMENTS TO THE STRICTLY TECHNICAL DATA COMPILED AND MADE PUBLIC ON APRIL 22ND OF THIS YEAR. I MUST LOOK AT THINGS STRICTLY FROM THIS POINT OF VIEW OR RUN THE RISK OF BEING IGNORED BY THOSE CHARGED WITH REVIEWING MY COMMENTARY. SO, IT APPEARS, I MUST FIRST ASK MYSELF IF I'M CAPABLE OF ANSWERING QUESTION 1. BY PROVIDING YOU WITH MY COMMENTARY. THE ANSWER I COME UP WITH IS, I DON'T KNOW.

RHETORICALLY, I MUST WONDER IF THE SCOPE OF QUESTION 1

(CONT. OVER)

349-1

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: DOUG DORAN
Address/Dirección: 804 ALARID ST
City, State, Zip Code/Ciudad, Estado, Zona Postal: SANTA FE, N.M. 87507

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

349-1 NNSA considers every comment received by U.S. mail, e-mail, toll-free telephone or fax line, or at the public hearings. Responses to comments are included in this CRD. Consistent with the purpose and intent of NEPA and the implementing regulations, public comments assist NNSA in determining the scope of the analysis to be included in a NEPA document and in improving the analysis and range of alternatives evaluated. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 349 (cont'd): Doug Doran

PAGE 2.

(CONT FROM REVERSE SIDE.)

WHICH REQUIRES ME TO RESTRICT MY INPUT BETRAYS A BIAS YOU MAY HOLD TO DO WITH THE SUBJECT OF THE DRAFT SEIS FOR THE NUCLEAR FACILITY PORTION OF THE CHEMICAL AND ME~~T~~ALLURGY RESEARCH BUILDING REPLACEMENT PROJECT AT LOS ALAMOS NATIONAL LABORATORY, LOS ALAMOS, NEW MEXICO? A BIAS WHICH WOULD OTHERWISE BE DIFFICULT IF NOT POSSIBLE TO DETECT? ON THE OTHER HAND, QUESTION ONE'S LIMITED SCOPE COULD IMPLY A DOUBT, OR DOUBTS, THE DESIGNERS THEMSELVES MAY HAVE AS TO THE VIABILITY OF THE OVERALL PROJECT? DOUBTS THEY'D BE LOATHE TO ADMIT TO ANYONE MOST ESPECIALLY THEMSELVES? DOUBTS, PERHAPS, ABOUT CONCERNS WHICH DON'T APPEAR WITHIN THE DRAFT SEIS BECAUSE THEY MUST BE SUPRESSED IN ORDER FOR THE PROJECT TO GO FORWARD?

SO IT COULD BE SAID THIS COMMENT FORM IS NOT SO MUCH TO DO WITH MY COMMENTS TO BE IN ACCORD WITH THE FORM'S GUIDELINE, BUT WITH COMMENTS I MUST SUPPRESS TO BE IN ACCORD WITH QUESTION 1. IN OTHER WORDS NOT THE COMMENTS I HAVE, BUT THE COMMENTS I'M REQUIRED TO NOT HAVE.

AGAIN, RHETORICALLY, WOULD RAISING DOUBTS AROUND THE ORIGINS OF QUESTION ONE BE PROVIDING COMMENTS I HAVE ON THE DRAFT SEIS? GRANTED, THEY MAY NOT BE IN AN ORTHODOX OR EXPECTED MANNER, BUT BY QUESTIONING POSSIBLE HIDDEN MOTIVES IMPLIED IN THE GUIDELINE OF THE FORM, WOULD THE COMMENTOR BE SAFE IN ASSUMING SUCH COMMENTS WOULD BE TAKEN INTO CONSIDERATION?

349-1 cont'd

IF SO, I THINK WE COULD LOOK AT THE DRAFT SEIS FROM A DIFFERENT PERSPECTIVE THAN MAY OR MAY NOT HAVE BEEN INTENDED BY DESIGNERS WHO MAY OR MAY NOT BE DARING TO HARBOR DOUBTS WHICH ARE DIRECTLY CONNECTED TO THE DRAFT SEIS BUT MAY OR MAY NOT FALL WITHIN THE BOUNDARIES OF QUESTION ONE.

A DIFFERENT PERSPECTIVE. ONE FROM WHICH DOUBTS AND BIAS DON'T NEED TO BE HIDDEN, BUT CAN BE LOOKED AT AND EXPLORED FOR ALL THEY'RE WORTH. A DIFFERENT PERSPECTIVE WHICH COULD WELL LEAD TO A FAR MORE COMPREHENSIVE DRAFT SEIS THAN THE ONE RELEASED ON APRIL 22ND.

I'M NOT SEEKING SPECIAL CONSIDERATION HERE. I'M ATTEMPTING TO BRIDGE A CHASM BETWEEN PERSPECTIVES, TO PERSUADE YOU THAT MINE IS AS VALID AS YOURS AND, THEREFORE, WORTH CONSIDERING.

THIS MUCH IS CERTAIN, I'M LESS THAN CONVINCED THAT THE DRAFT IS EQUALS NUCLEAR SECURITY. I ASSUME THAT'S ITS BOTTOM LINE

349-2

(CONT. ON PAGE 3.)

349-2 The purpose of a NEPA document, such as the *CMRR-NF SEIS*, is to "insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken" (40 CFR 1500.1(b)).

NNSA is fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. These changes are included in the Modified CMRR-NF Alternative (see Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*). See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 349 (cont'd): Doug Doran

(CONT. COMMENTS DRAFT EIS FROM PAGE 2.) PAGE 3.

PURPOSE, TO SATISFY LAY CONCERNS RELATED TO NUC-
LEAR SECURITY. IF MY ASSUMPTION ON THE PURPOSE
OF THE DRAFT IS CORRECT THEN THE DOCUMENT* SIMPLY
FAILS TO PASS MUSTER. ANYONE WITH A MEASURED OVER-
VIEW WOULD AGREE WITH ME ON THIS, I THINK.
AS IS SAID, THE DEVIL IS IN THE DETAILS AND IN THE
CASE OF THE DRAFT SEIS, THE DETAILS ARE QUESTIONS RAISED
WHICH REMAIN TO BE ANSWERED. IN ONE RESPECT WHAT WE
SEEM TO HAVE GOING ON HERE IS A RELUCTANT COLLAB-
ORATION UNDER THE AUSPICES OF NEPA BETWEEN
THE DESIGNERS AND THE TREE HUGGERS, IF I MAY BORROW
FROM THE VERNACULAR. NEITHER SIDE AGREES WITH THE
OTHER WHEN IT COMES TO THE MEANING OF THE TERM
'NUCLEAR SECURITY' BUT BOTH ARE REQUIRED BY LAW TO
WORK SOMETHING OUT. SO THERE'S A LOT OF BACK
SERIOUS CONCERNS HAVE BEEN
AND FORTH ON THE SUBJECT ~~AND WELL THERE SHOULD BE~~
RAISED TO DO WITH THE GEOLOGICAL STABILITY OF THE ~~???~~ BUILDING
~~CONSIDERING THE CONSEQUENCES OF A MISCALCULATION.~~
SITE. THE TREMENDOUS WEIGHT OF THE PROPOSED BUILDING ?
THIS LEADS ME TO COMMENT THAT THE VALUE OF THIS PRO-
CESS CANNOT BE OVERESTIMATED. ITS TRANSGENERA-
TIONAL, TRANSCULTURAL. IT IS PSYCHOLOGICAL. 349-2 cont'd

A., IF YOU'VE READ THIS FAR I SUPPOSE YOU CATCH MY
DRIFT AND, B. I COULD GO ON AND ON. AND THEN ON SOME
MORE FOR ANYONE LEFT IN THE ROOM. AND MAYBE SOMEDAY
IT WILL BE NECESSARY FOR ME TO DO THAT.
SO TO CLOSE, THE DRAFT SEIS WHICH IS THE SUBJECT
OF THIS BRIEF ELABORATION SHOULD BE WITHDRAWN BE-
CAUSE IT FALLS WOEFULLY AND IRREPAIRABLY SHY OF MEET-
ING WITH, NOT MY CRITERION (THOUGH IT DOESN'T) BUT WITH
ITS OWN CRITERION WHICH IS TO ESTABLISH BEYOND
ANY DOUBT A SENSE OF NUCLEAR SECURITY. AS MUCH
IS IMPLIED IN QUESTION 1 WHICH SOLICITS MY COM-
MENTS 349-3

NOW AS FAR AS I CAN TELL THERE'S NO LEGAL REQUIRE-
MENT FOR YOU TO PROVIDE ME WITH YOUR COMMENTS
ON MY COMMENTS. BUT IF YOU'RE INCLINED TO PLEASE
DON'T HESITATE FOR I'M ALSO AWARE OF NO REASON
YOU COULD NOT LEGALLY DO THAT. 349-1 cont'd

~~-END OF DOUG'S COMMENTS ON THE DRAFT SEIS~~
~~SANTA FE, N.M.~~ *STATEMENT (CONT.)

349-3 See the response to comment 349-2. In addition, it should be emphasized that the purpose and need is to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*).

Commentor No. 349 (cont'd): Doug Doran

PAGE. 4

~~CONT~~ VALID CONCERNS. OTHER SERIOUS QUESTIONS HAVE BEEN RAISED OVER THE VULNERABILITY OF THE ~~BUILDING~~ REPLACEMENT BUILDING TO ATTACK. THIS IS AN AREA OF CONCERN WHICH DEMANDS MUCH FURTHER CONSIDERATION THAN APPEARS IN THE DRAFT SEIS. THE OFFICIAL CALCULATIONS TO DO WITH THE PROBABILITY RATIO APPEAR TO BE DANGEROUSLY FLAWED IN THEIR ESTIMATION WHICH, GIVEN THE EXTREMELY HIGH VALUE OF THE TARGET TO AN ENEMY, COULD BE INTERPRETED AS A CHIP ON THE SHOULDER. ONE WOULD WONDER AS TO THE WISDOM OF SUCH WILD EYED BRAVADO. ANY SECURITY HERE? ~~HYSTERIA~~ 349-4

THEN WE HAVE THE ISSUE OF THE HUGE INCREASE IN THE AMOUNT OF WATER THE DRAFT SEIS ESTIMATES WILL BE NEEDED. I UNDERSTAND PLANS ARE BEING MADE TO PUMP WATER OFF THE DIVERSION PROJECT TO MEET THE DEMANDS OF THE PROJECT. TO MY KNOWLEDGE THIS IDEA WAS NEVER DISCUSSED DURING THE PLANNING PHASE OF THE RIVER DIVERSION. IF IT HAD BEEN THERE CAN BE LITTLE DOUBT IT WOULD HAVE BECOME A VERY SERIOUS ~~ISSUE~~ AND CONTROVERSIAL ISSUE. WHICH SHOULD BE ADDRESSED 349-5

ON THIS POINT WE COME TO ANOTHER POTENTIAL PROBLEM CONNECTED TO THE LARGE AMOUNTS OF WATER DESIGNED TO BE STORED INSIDE THE BUILDING TO BE USED IN CASE OF FIRE. THIS INDICATES THE POSSIBILITY OF ACCIDENTAL FIRE IS REAL. THE WATER IS THERE FOR SAFETY, AND THE WATER USED TO PUT OUT THE FIRE CANNOT BE RETURNED TO ITS STORAGE TANK AFTER IT'S BEEN USED TO PUT OUT THE FIRE. THE WATER DRAINS OFF INTO THE GROUND BELOW THE REPLACEMENT BUILDING FURTHER UNDERMINING THE ABILITY OF THE GROUND TO SUPPORT THE WEIGHT OF THE BUILDING. 349-6

SO IF THE DRAFT SEIS OVERLOOKS OR UNDERESTIMATES THE PROBLEMS RAISED BY THESE CONCERNS WHICH APPEAR ON THE HEARING RECORD IN MUCH GREATER DETAIL THAN I PROVIDE HERE, ONE MUST WONDER WHAT OTHER POTENTIAL PROBLEMS REMAIN YET TO BE CONSIDERED. ANY SECURITY HERE? I THINK NOT. IN FACT IT'S EASIER TO SAY THE OVERSIGHTS CONTAINED WITHIN THE DRAFT SEIS DO NOTHING BUT GENERATE INSECURITY WHICH OPENS THE DOOR TO STATES OF MIND LESS THAN SUITABLE TO MANAGE/CREATE PLUTONIUM SAFELY. <u>PERSONALLY I'M CONVINCED THE DESIGNERS ARE AWARE OF THIS TRUTH BUT ARE NOT OR PERCEIVE THEMSELVES NOT TO BE IN A POSITION TO OPENLY EXPRESS THIS.</u> THE DRAFT SEIS ALSO FAILS TO TAKE INTO CONSIDERATION THE EFFECTS SUCH THOUGHT SUPPRESSION HAS ON THE MIND SET OF THOSE CHARGED WITH MAKING SURE THE PROJECT MEETS WITH ITS GOAL OF PROVIDING NUCLEAR SECURITY. EVIDENCE OF THE EFFECTS OF SUCH THOUGHT SUPPRESSION ARE ALL AROUND US. ASKING BRILLIANT MINDS TO BREAK THEMSELVES TRYING TO FIT A SQUARE INTO A CIRCLE. IN FACT NUCLEAR SECURITY ITSELF IS NOTHING MORE THAN EVIDENCE OF AN ILLUSION. 349-7

AND THIS BRINGS US FACE TO FACE WITH MY TRUE POSITION ON THE OVERALL CONCERN WHICH, ACCORDING TO QUESTION 1, I'M REQUIRED NOT TO HAVE.

SO TO SUSTAIN THE ILLUSION WE MUST FIND WAYS TO SUPPRESS THE AFFECTS OF HAVING TO SUPPRESS CONCERNS THAT ARE SIMPLY TOO REAL FOR THE ILLUSION TO TOLERATE. AND NEPA CALLS FOR THE EXPRESSION OF SUPPRESSED THOUGHTS. NEPA REQUIRES THAT WE BE SANE. NEPA REQUIRES THAT WE NOT BECOME TRAPPED IN AN ILLUSION. NEPA EMPOWERS US TO SPEND 6 BILLION DOLLARS ON, SAY, RESTORING A RUINED WATERSHED* THROUGHOUT NORTHERN NEW MEXICO. THANKS DAVID, NEPA TURNS US ON. NEPA EQUALS SECURITY.

END OF COMMENTS.

*INSTEAD OF ON THE REPLACEMENT BUILDING.

349-4 Chapter 4, Section 4.2.10.3, Intentional Destructive Acts, of the *CMRR-NF SEIS* discusses scenarios such as terrorist attacks. These types of acts were analyzed as part of a classified appendix. Although the results of the analyses cannot be disclosed, the following general conclusion can be drawn: the potential consequences of intentional destructive acts are highly dependent on the distance to the site boundary and the size and proximity of the surrounding population; the closer and denser the surrounding population, the higher the consequences. In addition, it is generally easier and more cost-effective to protect new facilities because new security features can be incorporated into their design. In other words, the protective forces needed to defend new facilities may be smaller due to the inherent security features of a new facility. New facilities can, as a result of design features, better prevent attacks and reduce the impacts of such attacks.

349-5 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL. There are no plans to use water from the proposed San Juan/Chama transmountain diversion project for the CMRR-NF

349-6 The commentor is correct that the design of the Modified CMRR-NF includes tanks for fire suppression water. This is one of many prudent safety measures incorporated into the building design. Fires are not expected to occur, but the hazard must be anticipated and appropriately managed. If a fire were to occur in the CMRR-NF, the fire suppression water would be managed to ensure that it does not create additional hazards.

349-7 Comment Noted.

Commentor No. 350: Bob Walsh

July 5, 2011

Mr. John Tegtmeier
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by email to: nepalaso@doeal.gov

In a later dated June 2, 2011, I commented on the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico,* DOE/EIS-0350-S1, April 2011 (Draft SEIS). The recent Las Conchas wildfire stimulated a few hours in further contemplation of Chapter C, Evaluation of Human Health Impacts from Facility Accidents. I now submit these supplementary comments and would appreciate their serious consideration by the National Nuclear Security Administration (NNSA). I look forward to the agency's comprehensive response.

This letter contains five supplementary comments on Chapter C. The first four comments address specific technical issues, specifically volcanism, wildfires, economic impact, and sources for parameters used in analyses. The final comment expands on my earlier request for independent technical review of the Draft SEIS.

<u>Supplementary Comment 1. Volcanism.</u>
Section C.3 states that the selection and evaluation of accidents was based on the Nonreactor SAR Preparation Guide. In that guide, Section 3.4 states, "External events … will be … analyzed … if frequency of occurrence is estimated to exceed 10^{-6}/yr conservatively calculated, or 10^{-7}/yr realistically calculated…. The analysis that substantiates frequency need only be referenced."

According to Wikipedia articles on "Valles Caldera" and "Jemez Mountains," there have been at least two major eruptions in the region within the last two million years, at least one of which is considered a "supervolcano," in a class with the Krakatoa event. Please include in the EIS an explanation of why the possibility of an eruption in the Jemez Mountains is omitted from the accident analysis. *350-1*

<u>Supplementary Comment 2. Wildfires.</u>
In Section C.3.3 of the Draft SEIS, it appears that the only fires considered are those that are ignited within the facility. Events of the last forty years show that the 10-year wildfire in the Jemez area is a very significant event. Prehistoric wildfires are more difficult to estimate than prehistoric volcanism. How bad is the 100-year wildfire, the 1000-year wildfire, the 10,000-year wildfire? *350-2*

350-1 DOE NEPA guidance for evaluation of accidents differs from DOE guidance for preparation of Documented Safety Analyses but still requires consideration of low-probability and potentially high-consequence events. The goals of the two processes are different. In DOE's current safety analysis process, the goal is to ensure that adequate controls are in place to protect the public from a range of accidents. For EISs, DOE NEPA guidance requires that EISs consider enough accidents to give both the public and the decisionmakers an understanding of the potential accident risks associated with the proposed action and the reasonable alternatives. In the case of the CMRR-NF and the CMR Building, the existing safety analyses systematically consider a wide range of potential hazards and then select accidents that would bound the potential impacts and identify controls that would prevent or mitigate those accidents. For natural phenomena-initiated accidents, severe seismic events are considered much more likely and threatening than a major volcanic event that would threaten the integrity of the CMRR Facility. The safety analyses consider the potential impacts of events such as seismic collapse with no controls to prevent release of radioactive materials, and then the effects of various controls, such as HEPA filters, in preventing those releases.

The accidents reported in the *CMRR-NF SEIS* are based on the extensive safety analyses that have been prepared for both the existing and proposed nuclear facilities. The accidents presented in the SEIS result in conservative estimates of the potential risk from each of the alternatives.

In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapter 3 and 4 (Sections 3.5.1 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). A volcanic eruption during the life of the CMRR-NF is an unlikely event. A variety of volcanic phenomena could occur as a result an eruption with a dispersion of a large ash cloud likely to affect a large area of the region. As discussed in Appendix C, such an event would have consequences that are represented by other accidents analyzed in the SEIS.

350-2 The Documented Safety Analyses upon which the accidents reported in the SEIS are based consider a wide range of accident initiators, including wildfires. Wildfires are expected events; however, except for the Cerro Grande Fire in 2000, the impact of wildfires on LANL facilities has been minimal. Even the Cerro

Commentor No. 350 (cont'd): Bob Walsh

What is the potential for a fire that completely surrounds the laboratory area, requiring evacuation of all personnel? Such a fire might have multiple ignitions, such as a major lightning storm with little rain, or an earthquake that downs multiple power lines, or deliberate action by an anti-nuclear psychopath.

Can the analysis be conservative without considering that an exceptionally large wildfire might result in a firestorm, or even a fire swirl? Consider the 1923 Great Kanto event.

350-2 cont'd

Supplementary Comment 3. Economic Impacts
It appears from a scan of Section C of the Draft SEIS that it does not mention economic impacts, such as the impact of a required evacuation of a neighboring community. If the considered accident scenarios would have no economic impact (other than would have resulted without the presence of LANL), that should be stated in the document.

350-3

Supplementary Comment 4. Sources for Parameters
I accepted an electronic copy in lieu of a printed copy of the Draft SEIS, expecting a 21st Century technology, including links to sources. Not only are such links absent, but Section C.4 presents the parameters used in the risk calculations without page citations and in most cases without any indication of the uncertainty in the parameter. Page C-5 lists more than one document as the source for a particular type of parameter; there is no indication of which source is linked to an individual parameter.

For example, the last paragraph of page C-6 states, "The released respirable fraction (airborne release fraction times respirable fraction) is estimated to be 0.00025 for metal ..." By providing this parameter with two significant digits, the uncertainty is implied to be on the order of 10%, which seems suspicious.

For airborne release fraction, as for respirable fraction, page C-5 lists three references: LANS 2011a, 2011b, and DOE 1994. Of these, only DOE 1994 shows a URL in the reference list. Today, that URL has timed out every time I attempted to access it; however, I was able to access it at:
http://www.orau.gov/ddsc/dose/doehandbook.pdf
Section 4.2.1.1.3 covers the situation of self-sustained oxidation of plutonium above the ignition temperature and indicates that there is great uncertainty. The final sentence suggests bounding values of 0.0005 and 0.5. Other sections cover other conditions with other bounding values. Section 4.2.1.1.4 considers a disturbed molten metal surface with high turbulence, with bounding values of 0.01 and 1.0.

It appears that the value given on page C-6 is based on Section 4.2.1.1.3. If so,
1. The value should be stated as 0.0003 to avoid implying small uncertainty.
2. It should be stated that this is a bounding value, not an estimate.

350-4

Grande fire did not impact the CMR Building or the TA-55 Plutonium Facility due to the design of the facility and lack of combustible vegetation near either facility.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in Appendix D of the 2008 *LANL SWEIS* (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are primarily constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials, including vegetation, are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Wildfires are considered a design-basis threat and the design and safety features for the proposed CMRR-NF would mitigate the propagation of the fire to the loading dock and the external building structure. The controls that would be present to mitigate fires following a design-basis earthquake would also provide adequate protection for other fire initiators, such as a wildfire and lightning-induced fire. In those cases, the structure provides the first and perhaps, most significant control in the line of defense for the nuclear material in the facility. The structure prevents a wildfire from entering the facility and provides protection against fires initiated by lightning. No additional controls are necessary beyond those identified in the design-basis earthquake. The safety controls include the requirement that the building exterior boundary walls and slabs be designed to maintain structural integrity during wildfires.

A specific analysis of wildfires was not reported in the *CMRR-NF SEIS* because much more severe fires could be initiated by other means, such as process events and earthquakes. These are reported in the SEIS. The discussion in the SEIS has been expanded to discuss the wildfire threat and why the threat to the facilities discussed in the SEIS alternatives is minimal.

350-3 The text in Appendix C of the *Final CMRR-NF SEIS* has been expanded to discuss some of the potential impacts on the community following a severe, beyond-design-basis earthquake. These impacts can be both societal and

Commentor No. 350 (cont'd): Bob Walsh

3. There should be justification for assuming this condition rather than "disturbed molten metal surface with high turbulence," which would increase the calculated risk by a factor of 40.

I am suspicious of other parameters presented in Section C.4, but am not adequately funded to track the sources down without proper citations to available sources. In fact, I am not funded at all.

350-4 cont'd

Supplementary Comment 5. Independent Technical Review
As noted in my previous comments, having discovered multiple oversights upon brief examination of only one section suggests that this document has not been subjected to rigorous independent review. Considering the expected public scrutiny, the quality of this Draft SEIS raises doubts about the capability of the NNSA to provide technical management. This has contributed to public concern that:

1. The operation of the facility will not be properly overseen; there are risks from mismanagement are not included in the Draft EIS.
2. This threat from mismanagement is greater than any threat in the current world political situation that could be mitigated by nuclear weapons.

The general public is neither technically qualified nor adequately funded to perform a comprehensive review. I therefore repeat my previous request for a rigorous review of this document by an independent professional organization. After that, please submit the corrected document for public comment.

350-5

Thank you for your consideration,

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economic due to potential disruptions associated with monitoring and cleanup of potentially contaminated lands.

350-4 As indicated in Appendix C, the *CMRR-NF SEIS* reports the results of extensive safety analyses performed for existing and proposed nuclear facilities at LANL. Each of the accident scenarios presented in the SEIS is supported by dozens to a hundred or more pages of analysis that supports the high-level results reported. These more-detailed analyses form the safety basis for the ongoing or proposed nuclear facility operations at LANL. For security reasons, these analyses are not available to the public but have undergone extensive review by DOE and NNSA. In addition, DNFSB, an independent government agency, reviewed the safety basis for both the existing and proposed nuclear facilities discussed in the SEIS.

The Documented Safety Analyses, upon which the accident impacts in the SEIS are based, follow the standard DOE guidance for their preparation. The accident analysis factors, such as material at risk, damage ratios, airborne release fractions, respirable fractions, and leak path factors, follow the standard DOE practice as demanded by the current safety practices for DOE facilities. As indicated in the SEIS, airborne release fractions and respirable fractions for both the safety analyses and the SEIS are based on the recommended bounding values reported in DOE Handbook 3010, *Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities*, available at: http://www.hss.doe.gov/nuclearsafety/ns/techstds/docs/handbook/hdbk301094_cn.pdf

The accidents presented in the SEIS bound the potential risk from each of the alternatives.

350-5 The Defense Nuclear Facilities Safety Board (DNFSB) is an independent organization within the executive branch chartered with the responsibility of providing recommendations and advice to the President and the Secretary of Energy regarding public health and safety issues at DOE defense nuclear facilities. In operation since in October 1989, DNFSB reviews and evaluates the content and implementation of health and safety standards, as well as other requirements, relating to the design, construction, operation, and decommissioning of DOE's defense nuclear facilities.

DNFSB has a full time, onsite representative at LANL whose responsibility is to provide an independent review of nuclear safety at LANL. This site representative prepares weekly reports on the status of safety activities at LANL and these reports are made public at http://www.dnfsb.gov/board-activities/reports/site-rep-weekly-reports. In addition, DNFSB prepares technical reports and recommendations. Safety at LANL nuclear facilities has been an area of intense oversight and review by DNFSB over the last decade and its issues and concerns have helped DOE and NNSA focus on safety issues such as the need for a replacement for the CMR Building and the need to ensure that LANL nuclear facilities can adequately protect the public even in a severe natural phenomena-initiated event, such as a severe earthquake. DNFSB reports and correspondence between DOE and DNFSB is public and is available at: http://www.dnfsb.gov/board-activities/reports.

As would be indicated by review of the DNFSB weekly reports, technical reports, recommendations, and other LANL-related DNFSB activities, the safety documents and safety processes for existing and proposed LANL nuclear facilities have undergone intense, detailed scrutiny. This level of independent review is comparable to the independent review provided by NRC for nuclear power plants.

Commentor No. 351: Governor Walter Dasheno, Sr.
Santa Clara Pueblo

SANTA CLARA **INDIAN PUEBLO**

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June 24, 2011

John A. Tegtmeier,
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Re: **Santa Clara Pueblo's Comments on *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory* (DOE/EIS-050-S1)**

Dear Mr. Tegtmeier:

Santa Clara Pueblo submits the following comments on the *Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory* ("CMRR-NF DSEIS").

Although the CMRR-NF DSEIS states that the agency proposing the action is the National Nuclear Safety Administration ("NNSA"), because the NNSA is part of the U.S. Department of Energy ("DOE"), with which Santa Clara Pueblo enjoys a formal government-to-government relationship, we trust these comments will be respected as part of our government-to-government relationship with the DOE. As you know, that relationship is formalized not only in the DOE Order 144.1 (approved January 16, 2009) and the DOE American Indian and Alaska Native Tribal Government Policy ("DOE Indian Policy") but also more specifically through an Accord developed in 1992 directly between our Pueblo and the DOE which was restated and reaffirmed by both governments in 2006 ("2006 Accord").

As you may also know, Santa Clara Pueblo has gone on record in recent years objecting to any

Response side of this page intentionally left blank.

Commentor No. 351 (cont'd): Governor Walter Dasheno, Sr. Santa Clara Pueblo

Mr. Tegtmeier
Santa Clara Pueblo's Comments on the CMRR-NF DSEIS
June 24, 2011
Page 2

attempt by the DOE/NNSA to increase and make permanent plutonium pit production at Los Alamos National Laboratory ("LANL"). *See, e.g.*, Santa Clara Pueblo Tribal Council Resolution No. 08-16, *Supporting the Submission of Comments for Santa Clara Pueblo to the Department of Energy regarding the Complex Transformation Draft Supplemental Programmatic Environmental Impact Statement* (May 20, 2008). The Tribal Council has opposed expanding plutonium pit production at LANL when the impacts on the environment from sixty years of contamination at LANL still have not been adequately addressed. We thus are concerned about any "back door" attempt to increase pit production and address those concerns here in our comments on the CMRR-NF DSEIS.

First, however, we begin our comments with some background information regarding Santa Clara Pueblo and then follow with specific comments regarding the CMRR-NF DSEIS. While we appreciate the fact that the DOE and NNSA are finally acknowledging the considerable seismic risks that exist at LANL which would need to be taken into account in the design of a facility where special nuclear material would be handled and stored, we believe the analysis in the CMRR-NF DSEIS is incomplete and therefore fatally flawed. A revised draft supplemental environmental impact statement or an entirely new environmental impact statement should be issued with an opportunity for review and comment by the public and with proper government-to-government consultation with Santa Clara Pueblo.

Although our comments focus on very specific aspects of the National Environmental Policy Act ("NEPA") which we believe the NNSA has not properly followed, please bear in mind that this is no sterile regulatory matter for Santa Clara Pueblo. The Pajarito Plateau, where LANL is situated, contains many areas of traditional importance to the Santa Clara Tribal community. Environmental degradation of this place that is profoundly holy to the Santa Clara community affects the cultural survival of Santa Clara Pueblo.

I. Overview regarding Santa Clara Pueblo

Santa Clara Pueblo is a federally-recognized Indian tribe located in northern New Mexico, approximately twenty-five (25) miles northwest of the City of Santa Fe. Much of the City of Española, approximately one (1) mile to the west of our Tribal government offices, actually is located within the exterior boundaries of Santa Clara lands. While our Tribal offices are approximately eighteen (18) miles away from LANL, our closest border is actually only about five (5) miles from the current-day boundaries of LANL. In fact, early maps reveal that LANL once shared a boundary with Santa Clara Pueblo and that the area now located between LANL and Santa Clara was once referred to as "Area E." Our traditional lands include lands taken for the Manhattan Project.

While we always will emphasize the need for DOE to respect its government-to-government relationship with the Pueblo, Santa Clara Pueblo is not only a government in some bureaucratic

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sense of the word. In the broader cultural sense, we are also an Indian community of people, a society unto ourselves numbering less than a few thousand, distinct from every other Indian community in our traditions. We have similarities with the other Pueblos in New Mexico, especially those who also speak our Tewa language, but we are a separate sovereign Indian nation, recognized as such over the past 400 years by three different sovereign governments – Spain, Mexico, and the United States of America. Tribal leaders at Santa Clara Pueblo still carry the canes presented to our ancestral leaders by the Spanish and Mexican governments, as well as a similar cane presented by President Abraham Lincoln after New Mexico was annexed by the United States. Tribal protection and management of our natural resources along our ancestral homelands in the Jemez Mountains, Pajarito Plateau, and Rio Grande Valley began many thousands of years ago, long before the Spanish, Mexican, or American periods of our history.

The modern-day boundaries of our Pueblo include over 53,000 acres of land. This acreage figure includes some of our traditional lands that we have fought to regain but does not encompass all of our aboriginal territory. Many of the various vegetative communities and the innumerable wildlife species they support have significant traditional and spiritual value to us as a people. The Pajarito Plateau contains many areas of cultural importance to our people and our cultural practices connected to these areas continue to this day.

II. The CMRR-NF DSEIS does not take into account new information since the Complex Transformation Supplemental Programmatic Environmental Impact Statement ("SPEIS") Record of Decision was issued, which skews the entire NEPA analysis

A. New information since the Record of Decision was issued for the Complex Transformation SPEIS affects the Purpose and Need for the CMRR-NF DSEIS

In the CMRR-NF DSEIS, the NNSA proposes to complete the Chemistry and Metallurgy Research Building Replacement ("CMRR") Project at LANL by constructing a new nuclear facility portion ("CMRR-NF") of the CMRR Project to provide the analytical chemistry and materials characterization capabilities currently or previously performed in the existing, but now aged, Chemistry and Metallurgy Research ("CMR") Building. NNSA completed an environmental impact statement for the CMRR Project in 2003 and received a Record of Decision ("ROD") in 2004 to build the CMRR-NF at LANL Technical Area ("T.A.") 55. However, as indicated in the CMRR-NF DSEIS, since 2004, safety and seismic concerns associated with the CMRR-NF have caused the NNSA to reevaluate the design for the CMRR-NF. *See* CMRR-NF DSEIS at iv.

NNSA has indicated that the "scope of operations remains the same as before," meaning the scope of operations for the CMRR-NF discussed in the current document remains the same as it

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351-1 NNSA notes the commentor's objections about pit production at LANL and the adequacy of the SEIS. The need for the CMRR-NF is not connected to a specific level of operations. The CMRR-NF is not expanding capabilities that have historically been undertaken in the CMR Building; it is replacing the CMR Building capabilities because the CMR Building is not being operated to the full extent needed to meet DOE and NNSA operational requirements because of the need to comply with safety requirements. The CMRR-NF would be designed to meet all safety requirements necessary to undertake its mission.

As a result of comments received on the *Draft CMRR-NF SEIS*, Chapter 2, Section 2.7, Alternatives Considered but Dismissed, has been revised to describe alternatives that were considered but dismissed as not meeting NNSA's purpose and need. The alternative of distributing analytical chemistry and materials characterization capabilities among multiple facilities at LANL was considered, but not analyzed as a reasonable alternative. Because of the quantities of special nuclear material involved, to fully perform the AC, MC and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. RLUOB was not intended as a nuclear-qualified space to handle Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA would not operate the building as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear materials that could be handled in the building. As a result, analytical chemistry and materials characterization operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic road closures and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls and requirements for this type of work. For more information on this issue refer to Section 2.11, Alternatives Considered, of this CRD.

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was in the 2004 ROD for the facility, and thus consequently this current draft supplemental environmental impact statement only addresses "structural aspects and not its purpose." *See id.* at v. Indeed, the NNSA is rather emphatic in the CMRR-NF DSEIS that "[t]he purpose and need for NNSA action has not changed since issuance of the 2003 CMRR EIS" and that the "NNSA is not planning to revisit either the need for the CMRR-NF or locating the facility at another site." *Id.* at S-8, S-14, and 1-9. The NNSA also emphasized in the CMRR-NF DSEIS that the "[p]it production does not take place at the [current] CMR Building and would not take place in any CMRR facility." *Id.* at S-5, 1-7, and 2-6.

For part of its rationale as to why the purpose of the CMRR-NF has not changed, the NNSA appears to rely on the Complex Transformation SPEIS ROD. *See id.* at S-2 and 1-3. The CMRR-NF DSEIS states that, in the ROD for the Complex Transformation SPEIS, "NNSA announced its decision" that the mission of "manufacturing and research and development involving plutonium" would remain at LANL and that, in the ROD, the NNSA had reaffirmed its decision to construct and operate the CMRR-NF at LANL. *See id.* at 1-19.

A closer look at the Complex Transformation SPEIS ROD, however, reveals that there is new information that has occurred since the issuance of that ROD which does not appear to be properly reflected in the CMRR-NF DSEIS.

While it is true that the Complex Transformation SPEIS ROD did decide that manufacturing and research and development involving plutonium would remain at LANL and that the CMRR-NF would be constructed at LANL to replace portions of the aging CMR facility, the Complex Transformation SPEIS ROD explains that:

> NNSA will continue design of a CMRR-NF that would support a *potential* annual production (in LANL's TA-55 facilities) of *20-80* pits. The design activities are sufficiently flexible to account for changing national security requirements that *could result from* a new Nuclear Posture Review, further changes to the size of stockpile, or future Federal budgets.

73 Fed. Reg. 77648 (Dec. 19, 2008) attached in Appendix A to CMRR-NF DSEIS (emphasis added).

In that ROD, however, the NNSA indicated it was "not making any new decisions regarding production capacity [beyond the authorized 20 plutonium pits per year] until completion of a new Nuclear Posture Review in 2009 or later." *Id.* As the CMRR-NF DSEIS acknowledges, a new Nuclear Posture Review was issued by the Obama Administration in April of 2010. *See* CMRR-NF at 1-4. What the CMRR-NF DSEIS does not appear to acknowledge, however, is that the new Nuclear Posture Review that was issued did *not* increase the annual production of plutonium pits from the 20 pits per year currently authorized in the ROD for the LANL Site

351-1 cont'd

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Wide Environmental Impact Statement. *See* 73 Fed. Reg. 33232 (July 10, 2009) attached in Appendix A to CMRR-NF DSEIS.

Thus, we have new information that has not been factored into the CMRR-NF DSEIS – namely, that there is no need to continue with an expansive design for the facility to accommodate support needs for more than 20 pits per year.[1] In other words, the purpose and need section for the CMRR-NF DSEIS must be amended to reflect this new information. *See* 40 C.F.R. §1502.9(c)(1)(ii)(indicating that agencies shall prepare a supplemental environmental impact statement when "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts").

B. <u>New information since the Record of Decision was issued for the Complex Transformation SPEIS affects the Range of Alternatives for the CMRR-NF DSEIS</u>

Of course, this new information (that, because of the 2010 Nuclear Posture Review, the design for the CMRR-NF need not be so expansive to support increased pit production capabilities as was stated in the 2008 Complex Transformation ROD) not only affects the purpose and need for the CMRR-NF, it also affects the range of reasonable alternatives that must be discussed in the CMRR-NF DSEIS. It is the purpose of an action which determines the universe of alternatives an agency must consider. *See id.* at §1502.13. While courts will defer to agency expertise, agency discretion in forming and evaluating alternatives is not unlimited. The agency still must exercise its discretion in a manner which is reasonable, especially taking into account the facts of the situation and the important goals of informed decision-making and protection of the environment found in NEPA. As the Council on Environmental Quality has emphasized in its NEPA regulations, the identification and evaluation of alternative ways of meeting the purpose and need of the proposed action is the "heart of the environmental impact statement" and the agency must "[r]igorously explore" all reasonable alternatives. *Id.* at § 1502.14.

Simply put, the CMRR-NF DSEIS does not present a reasonable range of alternatives in accordance with the mandates of NEPA. The NNSA readily admits that two out of the three alternatives it currently analyzes are unworkable, which automatically tilts the analysis in favor of the NNSA's preferred alternative. *See* CMRR-NF DEIS at 1-10 and 1-11 (stating that the No Action Alternative - to build the CMRR-NF as envisioned in the 2004 ROD – "could not satisfy

[1] The other two reasons given in the Complex Transformation SPEIS ROD to justify an expansive design for the CMRR-NF to support up to 80 pits per year are also equally specious. The size of stockpile will be reduced over time with the new START treaty and the trends are that Federal budgets, if anything, will be decreasing. Indeed, in recent weeks, the U.S. House Appropriations Committee reduced the amount of funding for early construction activities for the CMRR-NF by one hundred million dollars. *See* discussion in Section IV.B, *infra*.

351-1 cont'd

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current facility seismic and nuclear safety requirements" and therefore could not meet the purpose and need for NNSA to build the facility); *see also id.* at 1-10 and 1-13 (stating that the Continued Use of CMR Building Alternative would not meet the purpose and need for NNSA because use of the current building would have to be lessened over time due to safety concerns). Since the NNSA pronounces two of its current three alternatives as, essentially, being unsafe, this only leaves the NNSA's preferred alternative – which is to build the new CMRR-NF at T.A. 55 as originally planned but with beefed up design and construction modifications to address seismic and other safety concerns. *See id.* at 1-10.[2]

However, as discussed above, since there no longer appears to be any need for the expanded design of the CMRR-NF to provide a support function for the production of what was once contemplated to be 80 plutonium pits per year,[3] there are now other alternatives that need to be addressed and further analyzed by NNSA to meet the revised purpose and need (for design space to accommodate support for only 20 pits per year). One alternative, for instance, that appears to have been given short shrift in the analysis in the CMRR-NF DSEIS is the consolidation of CMR functions into the CMRR Project's first phase building, the newly-built Radiological Laboratory, Utility, and Office Building ("CMRR-Rad Lab"), in combination with upgrading the already existing T.A. 55 Plutonium Facility-4, which is LANL's existing pit production facility. The NNSA dismisses the ability to use the CMRR-Rad Lab because it was not built to be a "nuclear-qualified space." *See id.* at 1-20. With respect to the Plutonium Facility-4, however, the CMRR-NF DEIS simply indicates that:

> [u]sing space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work.

Id. at 2-28.

351-1 cont'd

[2] As discussed further in Section IV.B, *infra*, even the discussion of NNSA's preferred alternative is too incomplete as to meet the needs of NEPA.

[3] If there are other justifications for needing to design a CMRR-NF to support a potential annual production of 80 pits other than the Complex Transformation SPEIS ROD, those explanations are not readily apparent in the CMRR-NF DSEIS. To not provide such an explanation in a draft environmental impact statement in clear and concise terms that the public can easily ascertain renders the statement "so inadequate as to prevent meaningful analysis." 40 C.F.R. §1502.9(a); *see also* 40 C.F.R. §1500.2 (explaining the agencies shall, to the fullest extent possible, ensure that environmental impact statements are clear in order to assist the public and decisionmakers).

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That analysis is woefully slim on substance and fails to meet the standards of NEPA to have federal agencies ensure, to the fullest extent possible, that environmental impact statements promote informed decision-making by public officials. *See* 40 C.F.R. § 1500.1(c). And, in any event, an upgraded Plutonium Facility-4 plus CMRR-Rad Lab alternative may need to be reexamined in light of the revised and updated "purpose and need" for the CMRR-NF DEIS.

We note that we continue to have concerns that the already existing Plutonium Facility-4 can be made safe enough to address seismic risks,[4] but we include this example to point out that there are a number of additional alternatives which may prove more reasonable than building a new costly facility and which must first be rigorously explored in order to comply with NEPA.

351-1 cont'd

III. NNSA must prepare a new, revised draft supplemental environmental impact statement or a whole new environmental impact statement and must consult with Santa Clara Pueblo before it is issued

There are two possible solutions for the NNSA to fix the NEPA flaws in its current CMRR-NF DSEIS. One is to issue a new, revised draft supplemental environmental impact statement:

> If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion.

40 C.F.R. §1502.9(a).

Here, of course, the portions needing updating and amending are the purpose and need and the range of alternatives analyzed.

The other solution is for the NNSA to actually issue a new environmental impact statement because enough has changed since 2004 that the analysis no longer falls into the category of simply needing supplementation. *See id.* at §1502.9(c).

In either event, when the updated, revised or new draft document is issued, government-to-government consultation with Santa Clara Pueblo regarding the revisions or additions must occur before the document is issued for additional public comment. *See* 2006 Accord at 3 ("DOE will consult with the Pueblo to assure that tribal rights, responsibilities, and concerns are addressed prior to the DOE taking action, making decisions, or implementing programs that may affect the Pueblo."). Moreover, no final supplemental environmental impact statement regarding the CMRR-NF should be issued without first consulting with Santa Clara Pueblo to ensure

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[4] *See* Albuquerque Journal, "LANL's Earthquake Study 'A Big Deal'" (April 16, 2011)(discussing LANL's Seismic Analysis of Facilities and Evaluation of Risk (SAFER) Project citing potential for significant earthquake damage to the Plutonium Facility-4 structure).

351-2 NNSA does not agree that a revised *Draft CMRR-NF SEIS* or an entirely new EIS is needed to reach a decision about construction of the CMRR-NF. NNSA does, however, intend to continue to consult with Santa Clara Pueblo officials in accordance with the 2006 Accord. NNSA has determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the proposed construction changes for CMRR-NF. See Section 2.2, NEPA Process, of this CRD for more information. The alternatives considered in the *CMRR-NF SEIS* address options for the proposed construction changes. The purpose and need for the CMRR-NF are addressed in Chapter 1 of the *CMRR-NF SEIS* and in Section 2.4, CMR Mission, of this CRD. The need for the CMRF-NF is not connected to a specific level of operations. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility.

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compliance with the 2006 Accord and to ensure DOE has lived up to its commitment to "protect and promote" Tribal Trust resources in order try to avoid impacts to those resources. DOE Indian Policy at 3 (Section I). **351-2 cont'd**

IV. NNSA must consult with Santa Clara Pueblo about, and more fully address, additional concerns the Pueblo has with the CMRR-NF DSEIS

A. Transuranic and mixed waste management for a new CMRR-NF needs to be better addressed

Activities at a new CMRR-NF, as envisioned in the NNSA's preferred alternative for a modified design, would generate transuranic and mixed transuranic waste. The CMRR-NF DSEIS indicates those wastes would go to the Waste Isolation Pilot Plant ("WIPP"). CMRR-NF DSEIS at 4-58. However, the NNSA admits that disposal operations at WIPP are only currently approved through 2034 and that WIPP could meet its "statutory disposal limit before the end of the operational period of the Modified CMRR-NF." *Id.* To try to quell that concern, the CMRR-NF DSEIS simply states that "[i]f necessary, transuranic or mixed transuranic waste generated without a disposal pathway would be safely stored pending development of additional disposal capacity." *Id.* **351-3**

In other words, there is not necessarily a waste disposal pathway for the waste the NNSA is contemplating generating as part of the CMRR-NF. To continue to generate new transuranic waste, without a known disposal pathway, when LANL has yet to clean up the legacy waste it has generated, is highly irresponsible. The NNSA needs to explain to Santa Clara Pueblo how it intends to address this problem.

B. Seismic concerns, especially associated with the NNSA's preferred alternative for the CMRR-NF, need to be better addressed

The NNSA has been clear that a primary reason why this CMRR-NF DSEIS was issued was because the 2004 design of the CMRR-NF no longer would satisfy current DOE nuclear facility seismic and safety requirements. *See, e.g., id.* at S-17. Instead, the NNSA has advocated the inclusion of "certain construction enhancements and additional associated construction support activities" to ensure that a newly-designed CMRR-NF at T.A.55, as part of the NNSA's preferred alternative, would be safe. *Id.* The CMRR-NF DSEIS explains fairly clearly and concisely why new information on seismicity near T.A.55 caused the NNSA to redesign the facility, *see, e.g., id.* at 3-25, but does not seem to explain in any clear or concise way (as required by NEPA) why it still makes sense to build a facility of that type in that location given the concern expressed by NNSA about the seismicity of the location. This is especially important to do given LANL's recent "self-reporting" to the NNSA about the potential for **351-4**

351-3 NNSA intends to dispose transuranic waste from operations at RLUOB, the proposed CMRR-NF, and other LANL facilities at WIPP or a similar facility. The waste volumes projected over the 50-year life of the new facilities would require up to 12 percent of the current unsubscribed WIPP disposal capacity. Decisions about disposal of any significant quantities of transuranic waste, however, would be made within the context of the entire DOE complex. It was assumed for analysis in the *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Impact Statement (WIPP SEIS II)* (DOE 1997) that transuranic waste would be received at WIPP over about a 35-year period, through approximately 2033. However, because the total quantity of transuranic waste that may be disposed at WIPP is statutorily established by the WIPP Land Withdrawal Act, the actual operational period for WIPP will depend on the volumes of transuranic waste received at WIPP from all DOE waste generators. Waste minimization efforts across the DOE complex would extend the WIPP operating period. If waste disposal capacity at WIPP is no longer available over the operating life of the CMRR-NF, then any transuranic waste generated at the CMRR-NF or elsewhere at LANL would be safely stored until additional disposal capacity becomes available. Because the issue of transuranic waste disposal affects several sites across the DOE complex, NNSA is confident that Congress would address any future need for additional transuranic waste disposal capacity in a timely manner.

351-4 NNSA does not agree that a revised *Draft CMRR-NF SEIS* or entirely new EIS is needed, and a decision on construction of the CMFF-NF need be delayed, pending the development of new seismic information. As addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD, DOE has been proactive in the assessment of the potential seismic hazards at LANL and the resulting design ground motions for the CMRR-NF reflect the best science and engineering available. As future studies are performed on the geology and seismology of LANL, there may be new information that becomes available that should be evaluated for potential impacts on the assessment of the seismic hazards.

All proposed new DOE facilities are required to be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment. DOE Order 420.1B, "Facility Safety," requires that nuclear or nonnuclear facilities be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards, including earthquakes. The order stipulates the natural

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earthquake damage for structures at T.A. 55. *See* news release, "Preliminary study assesses potential impact of seismic event at Los Alamos," at http://www.lanl.gov/news/releases/.

This is not an idle concern for Santa Clara Pueblo. As the CMRR-NF DSEIS acknowledges, the Pajarito Fault connects to a number of secondary faults -- the Santa Clara Canyon Fault, the Rendija Canyon Fault, the Guaje Mountain Faults, and the Sawyer Canyon Fault. *See* CMRR-NF DSEIS at 3-25. This fault system connects to Santa Clara Pueblo's landbase and, among other concerns, Santa Clara Pueblo remains deeply concerned that this fault system provides a means of transport for groundwater contamination to our lands.

In any event, it appears additional seismic investigations are still underway at LANL as part of the Seismic Analysis of Facilities and Evaluation of Risk (SAFER) Project and thus decisions about the CMRR-NF are premature. In fact, just a week or so ago, the U.S. House Appropriations Committee cited the need for the DOE to "first resolve major seismic issues with its design" of the CMRR-NF as a reason why that Committee reduced the amount of funding for early construction activities for CMRR-NF. *See* U.S House of Representatives Committee on Appropriations, *Report: Energy and Water Development Appropriations Bill, 2012*, at 131 (report can be accessed at: http://appropriations.house.gov/UploadedFiles/FY_2012_ENERGY_AND_WATER_FULL_COMMITTEE_REPORT.pdf.).

In fact, in the CMRR-NF DSEIS, the NNSA seems to admit that its analysis of construction methods for its preferred alternative is incomplete at best. The CMRR-NF DSEIS discusses two different construction methods for the NNSA's preferred Modified CMRR-NF. One option, the so-called Deep Construction Option, the NNSA indicates is "more mature, having undergone technical review by NNSA, NNSA's contractors, and the Defense Nuclear Facilities Safety Board." The other, the so-called Shallow Construction Option, NNSA admits has "more uncertainty" associated with it and still "needs to be subjected to the same level of technical review as the Deep Construction Option." CMRR-NF DSEIS at S-18; *see also id.* at 2-14. This analysis is hardly reassuring to those of us who live close to LANL (and who, as Santa Clara Pueblo people, will always reside on this land even after LANL is no longer needed) and who are deeply concerned about seismic risks and it hardly meets the requirement that NEPA help public officials make decisions that are based on understanding environmental consequences. 40 C.F.R.§1500.1(c).

If anything, the continued uncertainty regarding design and construction issues associated with the seismic activity at the NNSA's preferred location for the CMRR-NF underscores our request above that a new, revised, draft environmental impact statement or an entirely new environmental impact statement be issued for the CMRR-NF when this new information becomes available.

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phenomena hazards mitigation requirements for DOE facilities. DOE Standard 1020-2002, *Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities* (DOE 2002a), implements DOE Order 420.1B and provides criteria for the design of new structures, systems, and components to ensure that DOE facilities can safely withstand the effects of natural phenomena hazards.

The potential seismic hazards at LANL have been the subject of numerous studies performed in the past 30 years. Since the early 1990s, it has also been recognized that LANL is situated within and over the seismically active Pajarito fault system. The surface trace of the main Pajarito fault is the western boundary of LANL and dips underneath LANL, whereas subsidiary strands of the fault system, including the Rendija Canyon fault, extend into portions of LANL. The Pajarito fault system has been mapped in detail in the northern and western portions of LANL property, as well as in the vicinity of LANL.

In LANL seismic hazard evaluations issued in 1995, 2007, and 2009, a concerted effort was made to properly capture the uncertainties in input parameters. These analyses were reviewed and accepted by an external review panel, DOE, and DNFSB. Hence, it is expected that new information would not have a significant impact on the current assessment of the seismic hazard or design-basis earthquake ground motions for LANL. In addition, site-specific geotechnical investigations have been completed for both the Shallow Excavation Option and the Deep Excavation Option for construction of the CMRR-NF (Kleinfelder 2007a, 2007b, 2010a, 2010b). Therefore, there appears to be no compelling need to delay a decision on construction of the CMFF-NF pending the development of new seismic information.

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V. Conclusion

351-5 Santa Clara Pueblo reemphasizes here the DOE's and thus NNSA's duty, in accordance with our 2006 Accord and the DOE Indian Policy, to continue to consult with Santa Clara Pueblo on a government-to-government basis before any additional actions are taken or decisions made regarding this CMRR-NF DSEIS. It is our hope that the NNSA will live up to the words of our 2006 Accord by addressing the concerns Santa Clara Pueblo has expressed here in a manner that "recognizes and respects the continued existence of the Pueblo's values and culture in the exercise of its sovereignty."

Sincerely,

Walter Dasheno, Sr.
Governor

cc:

Members of the Santa Clara Tribal Council
DOE Secretary Steven Chu
NNSA Administrator Thomas P. D'Angostino
DOE Director of Intergovernmental and Tribal Affairs David Conrad
Senator Jeff Bingaman
Senator Tom Udall
Representative Ben Ray Lujan
Representative Martin Heinrich
Representative Steve Pearce
Governor Susana Martinez
New Mexico Environment Department Secretary F. David Martin
New Mexico Indian Affairs Department Secretary Arthur Allison
Joseph M. Chavarria
Jessica Aberly

351-5 NNSA intends to continue to consult with Santa Clara Pueblo officials in accordance with the 2006 Accord.

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INDIAN PUEBLO
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OFFICE OF GOVERNOR

RESOLUTION NO. 2011 - 19

APPROVING THE SUBMISSION OF COMMENTS FOR SANTA CLARA PUEBLO TO THE DEPARTMENT OF ENERGY AND THE NATIONAL NUCLEAR SAFETY ADMINISTRATION REGARDING THE DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT FOR THE NUCLEAR FACILITY PORTION OF THE CHEMISTRY AND METALLURGY RESEARCH BUILDING REPLACEMENT PROJECT AT LOS ALAMOS NATIONAL LABORATORY

WHEREAS, Santa Clara Pueblo (the "Pueblo") is a sovereign Indian tribe, recognized as such by the United States Government, with the Pueblo's Tribal Council as its governing body, whose authority is defined by the Pueblo's Constitution and Bylaws approved on December 20, 1935; and,

WHEREAS, the Pueblo has maintained a recognized and formalized government-to-government relationship with the Department of Energy (the "DOE") as set forth first in 1992 and then in 2006 in the *Restatement of Accord between the Pueblo of Santa Clara, a Federally-Recognized Indian Tribe and the United States Department of Energy* (October 31, 2006); and,

WHEREAS, the National Nuclear Safety Administration ("NNSA") is an agency of the DOE; and

WHEREAS, the NNSA has issued a draft Supplemental Environmental Impact Statement (the "DSEIS") regarding the NNSA's proposal for an updated design of the Nuclear Facility portion of the Chemistry and Metallurgy Research Replacement ("CMRR") project (the "CMRR-NF"); and

WHEREAS, the Tribal Council has considerable concerns about the analysis provided in the CMRR-NF DSEIS; and,

Response side of this page intentionally left blank.

Commentor No. 351 (cont'd): Governor Walter Dasheno, Sr.
Santa Clara Pueblo

WHEREAS, after careful consideration, the Tribal Council is of the view that it is in the best interest of the Pueblo to submit the attached comments regarding the CMRR-NF DSEIS;

NOW THEREFORE BE IT RESOLVED that the Tribal Council hereby approves the attached comments regarding the CMRR-NF DSEIS.

BE IT FURTHER RESOLVED that the Tribal Council authorizes and directs the Governor to execute and submit the attached comments regarding the CMRR-NF DSEIS on behalf of the Pueblo.

CERTIFICATION

I, the undersigned, duly elected Governor of the Santa Clara Pueblo, do hereby certify that the Tribal Council, at a duly called meeting that was convened with proper notice and was held on the 24 day of June, 2011, at Santa Clara Pueblo, New Mexico, a quorum being present, approved the foregoing Resolution with 9 in favor, and 0 opposed, 1 abstaining, 2 being absent.

Governor Walter Dasheno, Sr.

ATTEST:

Secretary Francis Tafoya

Response side of this page intentionally left blank.

Commentor No. 352: Yvonne Scott

May 23, 2011

Mr. John Tegtmeir
US DOE/NNSA
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Dear Mr. Tegtmeir,

I am a citizen of New Mexico. I am a citizen of the United States of America. I am a citizen of this planet, a mother, grandmother, and a person of conscience.

I submit this letter in protest to the planned desecration of more New Mexican land to an unsafe and unsustainable addiction catalyzed by power hungry scientists to create more disasters such as we have witnessed in Russia, in Japan and in our own Three Mile Island. How many more meltdowns, or disasters will it take for all of you to wake up and realize that you have been mistaken about this demon unleashed 70 years ago in our own land? **352-1**

The current building for Chemistry and Metallurgy Research is now partially shut down because of radiation problems. Creating another for "pit production" not 2/3 of a mile from a geologic fault line is sheer madness. **352-2**

I ask that my remarks be entered in opposition to this proposed building.

Sincerely,

Yvonne Scott

Yvonne Scott
1810 Mesa Vista NE
Albuquerque, NM 87106

352-1 NNSA notes the commentor's concern regarding the occurrence of nuclear accidents. NNSA operates its nuclear facilities in accordance with Federal, state, and local laws and regulations that are designed to protect human health and the environment and prevent accidents. In addition, DOE has its own orders and directives to mitigate the possibility of an accident occurring and protect human health and the environment. DOE and NNSA perform safety analyses to predict how accidents might occur and the related possible impacts, designing mitigation measures to address these concerns.

352-2 NNSA has curtailed operations at the current CMR Building because of safety restrictions; some types of metallurgical chemistry work have been suspended because of these limitations. The proposed CMRR-NF would replace the CMR Building and would be designed to address the safety restrictions put in place at the CMR Building. Refer to Chapter 1, Section 1.2, Background, for more information regarding what operations at the CMR Building were curtailed.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMFF-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF.

Commentor No. 353: Al and Julie Sutherland

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667-5948); or e-mail : NEPALASO@doeal.gov

Deadline June 28, 2011

353-1 A new EIS is needed, as the old one (of 2004) is obsolete & inapplicable. The scope of the project has changed dramatically & the price tag has increased from $600 million to $6 billion! We do not need more nuclear weapons! Instead, clean up of legacy waste has ~~[illegible]~~ to happen for return to sanity. Our children deserve a future free from the terrorist threat that Los Alamos National Lab poses! We want our health back! Think of life-affirming alternatives to this technological ~~possible~~ destruction: Wind & solar energy are the harbingers of the future & sustainable to boot. Don't pollute! Reduce, reject this SEIS & ~~[illegible]~~, rejoice! with PEACE & LOVE, Al & Julie Sutherland

HC 81 Bx 9, Questa, 87556

CMRR-NF Hearings:
Mon, May 23, 5 to 9 p.m., Albuquerque Marriott, Salon F, 2101 Louisiana NE (Louisiana & I40) Albuquerque
Tues, May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos
Wed, May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola
Thur, May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave, Santa Fe
View or download SEIS document : http://www.nepa.energy.gov or http://www.nnsa.energy.gov/nepa/cmrrseis

353-1 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 354: Cliff J. Kirchmer

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

I am writing to you concerning the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico.

I am concerned that the project proposes to build a replacement of the existing CMRR building on a site near a geologic fault line. While the project design is for the building to withstand a grade 7 earthquake on the Richter scale, an analysis in May 2007 showed a potential increase in seismic ground motion and activity, and a more powerful earthquake is possible. The recent earthquake in Fukushima, Japan, was measured at grade 9, a hundred times more powerful than grade 7, and even one of the recent aftershocks in Fukushima was 7.1 on the Richter scale. If the building were struck by an earthquake greater than that for which it is designed, there might be a nuclear disaster like those that occurred in Fukushima or Chernobyl. ***354-1***

The current projected cost of the project ($5.86 billion) also concerns me, at a time when we have budget deficits and our national debt needs to be reduced. In FY2004, the original cost of the project was estimated to be $400-550 million. ***354-2***

The CMRR project should be canceled and a study of the Los Alamos National Laboratory (LANL) plutonium infrastructure should be done. This should include existing and future capability needs, and a realistic cost for maintaining and upgrading safety features at the existing CMR should be determined. ***354-3***

Sincerely,

Cliff J. Kirchmer
921 Forrest Park Dr.
Fircrest, WA 98466-6808

354-1 NNSA notes the commentor's opposition to the CMRR-NF project. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

There are also fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

354-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

354-3 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 355: Marlene Perrotte

From: Marlene Perrotte [MarleneP@swcp.com]
Sent: Wednesday, June 29, 2011 1:50 AM
To: NEPALASO@doeal.gov; JTegtmeier@doeal.gov; RSnyder@doeal.gov; Marlene Perrotte
Subject: Draft Environmental Impact Statement for a Proposed Plutonium Facility at,,Los Alamos

June 28, 2011

Los Alamos Fire is burning out of control and it is the most dangerous fire in all of the United States because of nuclear weapons labs. The highest alert possible concerns about 20,000 to 30,000 in 55 gallon barrels plutonium waste above ground under tents. Are we not insane to propose such a facility on top of a **volcanic mountain** surrounded by **forests**. *355-1*

DOE Must Withdraw the Draft Environmental Impact Statement for a Proposed Plutonium Facility at Los Alamos Because It Is Incomplete and Inaccurate

The "Modified CMRR-NF" Alternative has two options – the "Deep" Option and the "Shallow" Option. All environmental impacts of the Shallow Option are based upon assumptions that are not defensible at this time. As this supplemental EIS itself states, "The Shallow Construction Option needs to be subjected to the same level of technical review as the Deep Construction Option so the two options can be evaluated on the same basis." Most of the environmental impacts proposed in this supplemental EIS for the Shallow Option end up being the same or similar to the Deep Option impacts. This is only speculation at this time. The Draft SEIS for the CMRR-NF fails to offer and analyze realistic alternatives. *355-2*

The Costs of Trying to Build a Plutonium Pit Factory in a Geologically Unstable Area Are Just Too High

LANL is located between a rift valley (the Rio Grande in that area) and an inactive supervolcano (the Jemez Mountains) in an active seismic fault zone (the Pajarito Plateau). An updated seismic hazards analysis was published in May 2007. It showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the over $3 billion in cost estimate increases since 2008 are due to efforts to address the increased seismic hazards. DOE must analyze whether $6 billion is too high of a premium in order to build a new NF at this location. *355-3*

Volcanic Eruption Impacts Must Be Analyzed

The *Preliminary Volcanic Hazards Evaluation for Los Alamos National Laboratory Facilities and Operations Current State of Knowledge and Proposed Path Forward, September 2010* Report states, "The integration of available information on the volcanic history of the region surrounding [LANL] indicates that the Laboratory is at risk from volcanic hazards." *355-4*

All Impacts of NF Construction on the State Consent Order Must Be Analyzed

Cleanup of the existing mess must be the priority – not the proposed NF. DOE made a commitment to cleanup the legacy waste sites at LANL when it signed the Consent Order with the New Mexico Environment Department on March 1, 2005. The Order requires cleanup of certain sites by December 31, 2015. The analysis of the impacts of construction activities for the proposed NF must include those for the cleanup activities; including those at the nearby chemical dump, Material Disposal Area C. Precious taxpayer funds must be used to meet the cleanup obligations, not to build a shiny, new CMRR-NF. *355-5*

The Draft CMRR-Nuclear Facility SEIS Is Deficient and Must Be Withdrawn! *355-1 cont'd*

355-1 The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. However, NNSA has taken actions to mitigate the risks of a wildfire on the domes. In 2000, the Cerro Grande fire burned a heavily forested canyon area to within about 0.75 miles (1.2 kilometers) of the waste storage domes, but none were burned and there were no radiological releases from the domes. The Las Conchas fire reached the southern border of LANL, but did not get within 2 miles (3.2 kilometers) of the domes. Additional fuel reduction has been conducted since the Cerro Grande fire, both to the vegetation surrounding TA-54 and within the domes themselves (for example, wooden pallets have been replaced with metal pallets), to further decrease the potential for a waste storage dome fire occurring as a result of a site wildfire. Furthermore, NNSA has an active program to remove the waste stored at Area G and ship it to WIPP for disposal.

NNSA notes the commentor's concern about constructing the CMRR-NF at LANL and request that the *Draft CMRR-NF SEIS* be withdrawn. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources). See the response to comment 355-4 regarding the risk of a volcanic eruption.

355-2 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. Alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, include both the Shallow Excavation Option and the Deep Excavation Option. Site-specific geotechnical investigations have been completed for the proposed CMRR-NF

Commentor No. 355 (cont'd): Marlene Perrotte

project site for both the Shallow Excavation Option and the Deep Excavation Option. Either option of the proposed CMRR-NF would be designed and constructed in accordance with recommendations provided in the geotechnical reports (Kleinfelder 2007a, 2007b, 2010a, 2010b). The human health and environmental impacts for both the Shallow and Deep Excavation Options have been analyzed to the same level in the *CMRR-NF SEIS*. The potential impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10, of the *CMRR-NF SEIS*. The Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

355-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMFF-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF.

355-4 NNSA agrees that volcanic eruption impacts should be analyzed and has made revisions. In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapter 3 and 4 (Sections 3.5.1 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). Based on the report, future planning will be performed to consider CMRR-NF structural requirements for ash-loading.

Commentor No. 355 (cont'd): Marlene Perrotte

355-5 The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Chapter 1, Section 1.5, identifies the decisions to be supported by the *CMRR-NF SEIS*. This does not include decisions on cleaning up (remediating) DOE sites across the country or LANL legacy waste cleanup. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 356: Tina S. Boradiansky, Esq.

From: Tina Boradiansky [mailto:swancloud55@gmail.com]
Sent: Tuesday, June 28, 2011 3:20 PM
To: Tegtmeier, John A.; Snyder, Roger
Subject: Proposed Expansion of Plutonium Program at LANL

Gentlemen:

I have been a resident of New Mexico for 31 years and have seen two gigantic fires encroach into LANL property. At this time we are all holding our breath (Tuesday, June 28, 11).

356-1 I am writing in opposition to the proposed expanded plutonium program at LANL. It is simply too dangerous and in the wrong geography for such a program. There are many natural risks inherent to the location, from ongoing extreme fire risk in this desert area, to earthquakes and vulnerable power sources.

PLEASE stop this process of expansion. It ALREADY makes most of us residents nervous to live near the current level of exposure. This massive fire should be a timely warning. PLEASE do not expand.

Thank you,

Tina S. Boradiansky, Esq.
Post Office Box 6625
Santa Fe, NM 87502

356-1 NNSA notes the commentor's opposition to the CMRR-NF project. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the CMRR-NF SEIS, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 LANL SWEIS, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 357: Tim Nelson

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: 5/24/11

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

357-1 | We (the Country) desperately need the CMRR NF to remove us from the aged CMR & support the ~~pit~~ gamut of nuclear programs supported by the Laboratory.

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Tim Nelson

Address/Dirección: 792 Gr[illegible] Lane

City, State, Zip Code/Ciudad, Estado, Zona Postal: White Rock, NM, 87544

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

357-1 NNSA notes the commentor's support for the proposed CMRR-NF project. NNSA believes that the 60-year-old CMR Building needs to be replaced in order to address safety, reliability, consolidation, and safeguards and security issues related to performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production). Due largely to seismic and safety concerns, the existing CMR Building operates at a reduced level that does not fully support the NNSA plutonium mission. The proposed Modified CMRR-NF would provide the capability to fully meet the mission need in a modern structure that meets all seismic safety and security standards.

Commentor No. 358: W. Ross

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: May 25, 2011

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

What kind of "intelligent" comment can one make to INSANITY?

To split the atom to boil water is insane

To blow up the world 10 times over is insane.

To pollute for GENERATIONS our air and water is INSANE!

358-1

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: W. Ross

Address/Dirección: Downwind

City, State, Zip Code/Ciudad, Estado, Zona Postal: POB 1126, CRESTONE, Co 81131

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

358-1 NNSA notes the commentor's opposition to the production of nuclear weapons and pits. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 359: Norma Navarro

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: MAY 25 2011

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

359-1

NORTHERN NEW MEXICO HAS A LONG TRADITION OF LIFEWAYS THAT SUPPORT & NOURISH PEOPLE, PLANTS, WATERSHEDS, ANIMALS & THAT ALWAYS HAS THE SUCCEEDING GENERATIONS IN MIND. LANL IS AN EXEMPTION ~~AND~~ AND DENIES THESE LIFEWAYS. SADLY LANL DAMAGES SELF-DETERMINATION OF COMMUNITIES — THE JOBS CREATED REFLECT RACIAL INJUSTICES OF THE LARGER UNITED STATES. THE HISPANOS & NATIVES FOLK CONTINUE TO BRING HOME DEADLY ILLNESSES - RARE CANCERS. RATHER THAN CONTINUE MINING, BUILDING, DESIGNING OF WEAPONS, THE PRIORITY NEEDS TO BE AROUND UNDERSTANDING THE NATURE OF NUCLEAR INDUSTRY, & BEGIN TO EVOLVE ON A PATH OF NO HARM/VIOLENCE, COMPASSION, HUMILITY ~~AND~~ W/O NUCLEAR WEAPON & ENERGY. WE HAVE ALL THAT WE NEED TO LIVE GOOD HEALTHY LIVES, NOW WE NEED TO PROTECT & HONOR THE LAND, H_2O, & AIR WE HAVE BEEN GIFTED.

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Norma Navarro
Address/Dirección: PO BOX 1262
City, State, Zip Code/Ciudad, Estado, Zona Postal: ALCALDE NM 87511

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

359-1 NNSA notes the commentor's opposition to the production of nuclear weapons and nuclear energy and concerns about racial injustice. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The environmental impacts analysis in Chapter 4 of the *CMRR-NF SEIS* evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area. The potential impacts on environmental justice due to construction (except for the Continued Use of CMR Building Alternative) and operations are addressed in Sections 4.2.11, 4.3.11, and 4.4.11. These analyses show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse impacts during implementation of any of the alternatives.

Commentor No. 360: Ruth Halcomb

From: Ruth Halcomb [ruthmmh@yahoo.com]
Sent: Saturday, June 25, 2011 3:59 PM
To: nepalaso@doeal.gov
Subject: New plutonium pit facility must be delayed if not stopped!

I am writing to voice my strong opposition to NNSA's new plutonium pit facility proposed at Los Alamos.

Manufacturing plutonium pits constitute a serious threat to the health and safety of those living downwind and downstream. Plutonium has been proven to be a potent carcinogen. The residue from the Alamos Lab has a severe health impact upon Native peoples and Hispanic New Mexicans. *360-1*

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. It is imperative that the implications of the seismic survey be taken seriously. *360-2*

The U.S. does not need 80 new plutonium pits per year. The cold war is over, use of nuclear weapons is unthinkable and peaceful uses of nuclear power are in question following the recent tragic situation in Japan. *360-3*

Ruth Halcomb
2921 Viaje Pavo Real
Santa Fe, NM 87505

360-1 NNSA notes the commentor's opposition to the CMRR-NF project, pit production, and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF.

The environmental impacts analysis in Chapter 4 of the *CMRR-NF SEIS* evaluates potentially affected resource areas in a manner commensurate with the importance of the potential effects on each area. The potential impacts on environmental justice due to construction (except for the Continued Use of CMR Building Alternative) and operations are addressed in Sections 4.2.11, 4.3.11, and 4.4.11. These analyses show that the total minority, Native American, Hispanic, and low-income populations would not be subjected to disproportionately high and adverse impacts during implementation of any of the alternatives.

360-2 A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

360-3 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile

Commentor No. 360 (cont'd): Ruth Halcomb

stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 361: Karen Barton

From: Karen Barton [astrique@aol.com]
Sent: Sunday, June 26, 2011 2:42 PM
To: NEPALASO@doeal.gov
Subject: Stop New Nuclear Weapons Plant, Earthquake Zone by 6/28

Dear Department of Energy,

I'm concerned about the construction of the CMRR plutonium reprocessing and storage facility in New Mexico. It will store six tons of the most highly toxic substance on Earth, plutonium, at the government's facility. Second, the costs have ballooned by 1000%, from $600 million to $6 billion.

361-1 Finally, this facility can be used to reverse the program, from President Obama's pledge to end nuclear weapons, to produce as many as 80 nukes each year. This is going one step forward, 3 steps back, with plutonium—the most deadly, toxic substance in the world.

Sincerely,

Karen Barton
714 Old Lancaster Road
Bryn Mawr, PA 19010-3109

361-1 NNSA notes the commentor's concerns regarding storage of plutonium, costs, and purpose of the CMRR Project. The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect the workers and public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

Commentor No. 362: sally-aliceanddon@juno.com

From: sally-aliceanddon@juno.com
Sent: Wednesday, June 29, 2011 9:11 PM
To: NEPALASO@doeal.gov
Subject: Bombs

We already have too mahy! *362-1*

362-1 Comment noted.

Commentor No. 363: Maureen Wright

June 20, 2011

To John Tegtmeer
Los Alamos Lab
3747 W. Jemez Rd
Los Alamos NM 87544

Dear Mr. Tegtmeier,

363-1 Please know I oppose the construction of the nuclear facility designed to manufacture of new nuclear pits (plutonium pits) which is against National Environmental Policy Act and clearly against Article 6 of the Non Proliferation Treaty. In fact Los Alamos should have been closed at the time the Non Proliferation Treaty was ratified - Our present number of nuclear weapons are more than enough to disintegrate our known world - Should we add to our supply?

Sincerely,
Maureen Wright
2816 Kentucky St NE
Albuquerque NM 87110

363-1 NNSA notes the commentor's opposition to the proposed construction and operations of the CMRR-NF and to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 364: Laura Woodford

Laura Woodford
821 Wilmore SE
Albuquerque, NM
87106

6-19-11

Los Alamos National Laboratory
3747 W. Jemez Rd
Los Alamos, NM 87544
Attn John Tegtmeier, Document Mgr. (CMRR-NF SEIS)

Dear Mr. Tegtmeier,

364-1 I oppose any new facilities to construct or create nuclear cores or pits or associated manufacturing, such as the CMRR proposed currently. There are no alternatives offered in the draft proposal, which I feel is contrary & against the National Environmental Policy Act, as well as being an inappropriate course of action for many reasons. The Cold War is long over + the US would have appeared to be on a course towards disarmament, & what, Article 6 of the non proliferation treaty.

364-1 NNSA notes the commentor's opposition to the proposed construction and operations of the CMRR-NF and to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS,* as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 364 (cont'd): Laura Woodford

There have been many
challenges to this kind
of manufacture, not the
least of which is: where
will the waste be stored? **364-2**

Can we really afford this?
Our economy is not in the
kind of shape to afford
such non-productive activity. **364-3**

We already have around 70
million bombs & one would
ask: why do we need this
much fire power? **364-1 cont'd**

New Mexico is actually
still considered an
earthquake zone in that
area. **364-4**

Please do not waste
our tax dollars for the
purpose of creating new
weapons & plutonium-cores
rather than other
positive and life affirming
activities. **364-3 cont'd**

Sincerely,
Laura Woodford.

364-2 As summarized in Section 2.5, Cleanup and Waste Management, of this CRD, the CMRR-NF and RLUOB would be designed, constructed, and operated to accommodate the projected waste volumes to be generated at the facilities. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. The impacts associated with transportation of radioactive and nonradioactive wastes to offsite treatment or storage facilities have been estimated for all alternatives (see Chapter 4, Sections 4.2.13, 4.3.13, and 4.4.13, of the *CMRR-NF SEIS*).

364-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

364-4 Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the Draft CMRR-NF SEIS was prepared; however, it has subsequently been made available to the public and has been incorporated into the Final *CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve.

Commentor No. 365: James Miller

Mr. John Tegtmeir
US DOE/NNSA
Los Alamos Site Office
3747 West Jemenez
TA-3 Building
Los Alamos, NM
87544

June 23, 2011

Dear Mr. Tegtmeir,

I am writing to register my comments against the CMRR Project. I urge cancellation of this project due to extreme safety concerns and dismay at its ballooning budget. I think this project is poorly thought out and has the potential to bring utter catastrophe to the region. *365-1*

Thank you in advance for hearing my concerns.

Sincerely,

James Miller

James Miller
23052 Audette
Dearborn, Michigan
48124

365-1 NNSA notes the commentor's opposition to the proposed construction of the CMRR-NF and concerns about safety. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

Commentor No. 366: Katherine Michalak

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667–5948); or e-mail : **NEPALASO@doeal.gov**. Deadline June 28, 2011

Dear Mr. Tegtmeier,

366-1

The CMRR-NF at LANL recently came to my attention, and I'm very concerned about the potential consequences of this facility. As a lay person, I can't accurately estimate how high the impacts will be — the health hazards, the pollution, the interference with cleanup of existing waste at LANL — or whether the project is necessary and/or beneficial to our country. However, from the information I do have, this facility appears to be a questionable and risky undertaking on many fronts. From my understanding, the US already has sufficient plutonium pits, ~~so~~ and stockpiling nuclear weapons will do more harm than good in the current world climate.

366-2

I understand that financing this project does nothing economically for New Mexico outside of the already affluent Los Alamos county; as a taxpayer, I feel that this would be money squandered. I understand

366-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

366-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 366 (cont'd): Katherine Michalak

that the location for this facility ~~time~~ lies
between a Rift & a fault zone, making it
an even more environmentally risky under-
taking than nuclear facilities are to begin
with. **366-3**

From my perspective, it's absolutely
essential that

A) A new EIS in conducted; the SEIS
is far from sufficient **366-4**

B) The value of this Facility is thoroughly
questioned, and cancelation of the
project considered. **366-2 cont'd**

Thank you for considering my views.

Regards,

Katherine Michalak
PO Box 604 / 363 E Copper Ave
Crestone, CO 81131
[redacted]-[redacted]-[redacted]

366-3 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

366-4 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 367: Sister Joan Arnold

P.0. Box 109
Huntington, Indiana 46750-0109
June 27, 2011

Mr. John Tegtmeir
U.S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Rd
TA-3 Building 1410
Los Alamos, New Mexico 85744

Dear Mr. Tegtmeir:

I am writing to you about the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico. Since the Lab already has the ability to manufacture 20 "Plutonium Pits" a year, why is there any necessity to produce more?

I believe it is time to reduce nuclear weapons and not waste money on producing more "triggers" that are at the heart of every nuclear weapon. Furthermore, I learned that the Department of Energy has 15,000 pits stored at the Pentax Facility in Texas. Also, the projected budget for this project at Los Alamos is now $5.86 billion with a completion date of FY2023. This money could be better used for peaceful purposes. It would be foolhardy for anyone ever to use nuclear weapons! *367-1*

The worst part of all is that the proposed site for the new CMRR building is some two-thirds of a mile from a geologic-fault line. No doubt the more than $3 billion that has been added to cost-estimates since 2008 result from efforts to address the heightened seismic hazards in the area. In my view, the proposed CNRR project should be canceled immediately! *367-2*

Thank you for your consideration of my comments.

Sincerely,

Sister Joan Arnold

Sister Joan Arnold

367-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. The need for CMRR-NF is not connected to a specific level of operations. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

367-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 368: Kip Powell

Mr. John Tegtmeier 07/03/11

I am writing to express my complete opposition to the redesigned Chemical and Metallurgical Research Replacement Nuclear Facility. The danger of seismic damage is too great as is the potential for unpredictable wildfire behavior.

It seems that LANL escaped serious damage from the Las Conchas fire due to good preparation and safety planning as well as the extraordinary efforts of the firefighters. It also seems that a great deal of luck was in play. Had this fire occurred in April or May, the strong and persistent 30 - 50 mph winds might have caused a catastrophic outcome. **368-1**

This region has had the shadow of nuclear R&D and its associated toxic waste problems for 60 years. Nuclear weapons are not a deterrent to terrorist attacks nor are they useful as diplomatic leverage. The continued funding of federal nuclear weapons expansion and modernization makes a mockery of the nonproliferation treaty the U.S. has signed. **368-2**

My wife, our friends, and coworkers are weary and scared from this latest mess. We still have no idea how much toxic radiation was/is in the smoke. The data is only now starting to be posted on the internet. Have we been exposed for a week and will we only find out too late? **368-1 cont'd**

We love New Mexico and this area. We think it's time for LANL to be repurposed or shutdown and cleaned up, if that's even possible. 60 years is long enough. Research sustainable energy sources. The brain trust at LANL could completely change the course of modern man for the better. I am not alone in my concern and will seek to influence political decision makers as will many others in New Mexico and the U.S. **368-3**

Sincerely,

Kip Powell

Kip Powell
Espanola,NM

368-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. A summary of possible public health impacts resulting from the fire is included in Chapter 4, Section 4.6.1.3, of the 2008 *LANL SWEIS* (DOE 2008a). As indicated in this section, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air

Commentor No. 368 (cont'd): Kip Powell

during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself. This section of the *LANL SWEIS* also discusses the *Public Health Assessment* (ATSDR 2006), for which the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed environmental monitoring data from 1980 to 2001 and concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future. The data considered in the ATSDR assessment included at least one full year of environmental monitoring results from the period following the Cerro Grande fire. Similar results would be expected from studies that will be done on the Los Conchas fire.

368-2 The President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

368-3 Comment noted.

Commentor No. 369: Susan McCarthy

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667–5948); or e-mail : ***NEPALASO@doeal.gov***.

Dear Mr. Tegtmeier,

I wish to draw your attention to the following drawbacks to the Draft CMRR-NF SEIS document:

1) The geological instability of Los Alamos makes it unsuitable for a plutonium pit facility; **369-1**

2) A new EIS rather than a Supplemental EIS is what is called for because greater seismic activity wasn't envisioned in 2004 as shown in the May 2007 updated analysis;

3) The cost of the new plutonium pit complex is too great; **369-2**

4) A real NO ACTION alternative should be included among the alternatives; **369-3**

5) Cleanup of the current radioactive mess will be neglected if the new facility is pursued; **369-4**

6) Capacity studies will show that DOE doesn't need 80 new plutonium pits per year. **369-5**

Sincerely
Susan McCarthy
TAOS, NM

CMRR-NF Hearings:
Tues, May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos.
Wed, May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola.
Thur, May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave, Santa Fe.
View or download SEIS document : http://www.nepa.energy.gov *or* http://www.nnsa.energy.gov/nepa/cmrrseis

369-1 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Refer to Section 2.2, NEPA Process, of this CRD for more information.

369-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

369-3 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor

Commentor No. 369 (cont'd): Susan McCarthy

constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967). See Section 2.11, Alternatives Considered, of this CRD for more information.

369-4 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

369-5 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The need for the CMRR-NF is not connected to a specific level of operations. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Commentor No. 370: Bonnie Bonneau

p.s. what will the total weight of the building & re per square foot floor data please. (include foundation & fault filler)

370-6 cont'd

Submit Questions or Comments about the Draft CMRR–NF SEIS to: P 1 of 3

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office, 3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544 or fax: (505) 667–5948); or e-mail : NEPALASO@doeal.gov. **Deadline June 28, 2011**

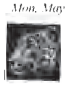
Dear Sir when i studied "facilitation" it involved brain storming and concensus Building. Apparently LANL's school on facilitation did not include these tools. Your facilitators were rude, arrogant, manipulative, power trippers and did not treat all people with respect. This and the more than $200 million hole @TA55 imply that the deal is done and none there is listening (as usual).

370-1

People want change and progress, it is a new century. The SNMR&D has been reworked, renamed and remarketed too many times. Old documents have been suplimented at least twice and are so misconfigured that they cannot fit into a coherent program, so we are given fragments and excuses, fast talk and slight of hand. A ananaysis is only as Good as the data it's based on, ie the Appendices. Need to update the data files!

370-2

CMRR-NF Hearings:
Mon, May 23, 5 to 9 p.m., Albuquerque Marriott, Salon F, 2101 ... NE (Louisiana & 140) Albuquerque
... Alamos.
..., Espanola.
...oms, 6401 Richards Ave, Santa Fe.
...www.nnsa.energy.gov/nepa/cmrrseis



Ms. Bonnie Bonneau
PO Box 351
El Prado, NM 87529

FROM

370-1 NNSA notes the commentor's opposition to the CMRR-NF project and concerns about the NEPA process. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA notes the commentor's concerns regarding how the facilitator mediated the public meeting. All public meetings were facilitated in the same manner, using commonly used methods. No disrespect was intended toward public participants. NNSA will take the lessons learned from these public interactions and consider how future meetings can be improved.

370-2 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including an option of not constructing the CMRR-NF at all. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for more information.

As discussed by the commentor, Appendix C of the *Final CMRR-NF SEIS* has been updated to include additional information on wildfires, volcanoes, and accidents such as the accident that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant. All of the references associated with this appendix will be available on the *CMRR-NF SEIS* website when the *Final CMRR-NF SEIS* is released to the public.

Chapter 4, Section 4.2.10.3, Intentional Destructive Acts, discusses scenarios such as terrorist attacks. These types of acts were analyzed as part of a classified appendix. Although the results of the analyses cannot be disclosed, the following general conclusion can be drawn: the potential consequences of intentional destructive acts are highly dependent on the distance to the site boundary and the size and proximity of the surrounding population; the closer and denser the surrounding population, the higher the consequences. In addition, it is generally easier and more cost-effective to protect new facilities because new security features can be incorporated into their design. In other words, the protective forces needed to defend new facilities may be smaller due to the inherent security features of a new facility. New facilities can, as a result of design features, better prevent security attacks and reduce the impacts of such attacks.

Commentor No. 370 (cont'd): Bonnie Bonneau

370-2 cont'd

You obviously have the revised edition (2) P 2 of 3
of Appendix C which includes evacuation plans,
terrorism, volcanic features, Fukushima and all
those great subjects you told folks in Taos
about. But these ~~sup~~ subjects are not
in the print version of the document, so
are they in the computer version or where?

370-3

Where did the local paper get the idea that
CMRR-NF was to be next door to old CMR Bldg?
Your visit to Taos was full of misinformation &
you admitted to enjoy deceiving folks. Ya'll are
quite stuck in your ways.

370-4

If the NEPA process applies to the doings
of LANL-NSSA, you will produce a complete
EIS of the Entire TA-55 Along with suggested
plans to cleanup / DID TA-55 in the next
phase of the mad plan to build bombs
atop the largest volcano on the continent.
You need a viable No-Action and Green
Action and peace Alternative, as well
as a less pyrophoric alternative.

370-5

Any excuse that NM is a sacrifice zone
is totally racist, immoral & illegal.
Plotting to bomb civilians is messed up too.

370-3 NNSA disagrees with the commentor's opinion that misinformation was provided at the public meetings. The information provided at the meeting in Taos accurately reflects the scope and status of the proposed project.

370-4 NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. The 2008 *LANL SWEIS* analyzed site-wide activities.

Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967). A "green action and peace alternative" would not meet NNSA's stated purpose and need.

NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

370-5 NNSA does not consider any part of the country a "sacrifice zone." NNSA complies with all Federal, state and local laws and regulations when planning and conducting its activities to meet its mission as assigned by the President and Congress.

370-6 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building

Commentor No. 370 (cont'd): Bonnie Bonneau

p 3 of 3 -

370-6
It seems ill advised to dump cement into a geologic fault, but if this is indeed part of the plan, you must consider the possibility the fault might move and try it at somewhere else in an area far from dangers like plutonium. How far is TA55 from the fault under that excavated hole? How much weight will concrete add to the (light weight tuff) mesa? Can it dry and cure properly without air? How long and deep is the fault? Is it part of a drainage that comes out in a canyon? Cement is quite caustic. Don't faults collect water?

370-7
Usually EIS documents have response to public comments to show how issues are addressed and where. There were so many subjects raised in Espanola a few years back that were overlooked.

370-8
The subject of criticality with a 6.6 ton payload should provide a big bang, at least big enough to split the plates at the Rio Grande Rift. Somehow you need to quantify the possible global impact of such a scenario. Could a 9-11 airstrike jar the balance. The bombs are activated by a smaller explosion, it's a chain reaction. Accident, terrorist, act of God, natural phenomenon, power outages, evacuation plans, so much is missing, this document is inadequate for such an expensive error. Yours T, bonnie bonneau

location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The seismic mass (dead load plus live load) of the proposed building is 490 million pounds (220 million kilograms). The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option.

370-7 Chapter 1, Section 1.8 of the *Final CMRR-NF SEIS* summarizes the changes made in the SEIS since the *Draft CMRR-NF SEIS* was released to the public.

Commentor No. 370 (cont'd): Bonnie Bonneau

370-8 As described in Appendix C, even during the most severe accident, the amount of plutonium estimated to be released from the CMRR-NF would be small. The environmental consequences for human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

Appendix C describes the methodology used to determine the accidents evaluated in the *CMRR-NF SEIS*. Selection of these representative accidents considers a wide range of accidents produced by natural phenomena (e.g., earthquakes, volcanoes, tornados, high winds, floods, snow loads, wild fires) and those that are the result of the actions of man (e.g., spills, drops). The accidents selected for presentation in the *CMRR-NF SEIS* are those that provide a representative range of accidents. These impacts can be both societal and economic due to potential disruptions associated with monitoring and cleanup of potential contaminated lands.

Commentor No. 371: Ruth Fahrback

Submit Questions or Comments about the Draft CMRR-NF SEIS to:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA-3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667-5948); or e-mail : ***NEPALASO@doeal.gov***. **Deadline June 28, 2011**

371-1
June 30, 2011 due to the Las Conchas fire, I hope you will accept this 2 day-delayed letter. 1st I am

371-2
requesting an EIS study to assure accurate & comprehensive details before building CMRR-NF The fact of spending Billions of dollars ($4.5 billion) on a geological fault line is unconscionable. We must deal with cleaning up Tech Waste and use of taxpayers' money for this before anything else!

371-3
We must rid our world of nuclear weapons and free our coming generations from this deadly liability! There are alternative to energy needs such solar, wind and water ~~and~~ hydraulics. Plutonium Kills and causes diseases of cancer & chronic fatigue It is a Killer. Let's use New Mexico taxpayers monies to establish greater health care & preventative medicine, create green jobs, grow industrial hemp which aerates the soil and produces the greatest biomass on the planet! Thank you.

taoshemp@newmex.com Ruth Fahrback [redacted]

371-1 In response to the Las Conchas fire, which affected the Los Alamos community, NNSA extended the public comment period to July 5, 2011. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

371-2 NNSA notes the commentor's concern regarding accurate and comprehensive details regarding the CMRR-NF. To address this, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA intends to continue to implement environmental restoration actions. NNSA does not consider environmental restoration to be optional and progress on implementing those actions is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

371-3 NNSA notes the commentor's opposition to the existence of nuclear weapons and nuclear power. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 371 (cont'd): Ruth Fahrback

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

Commentor No. 372: Marjorie S. Allen

to John Tegtmeier
Document Manager
Los Alamos National Labs
3747 Jemez Rd
Los Alamos 87544
Re: CMRR

June 20, 2011

Dear Mr. Tegtmeier,

372-1 I oppose any construction of The CMRR in Los Alamos. New Mexico is not and should not be a place that is used for antiquated concepts of defense made antiquated by the ratification of the Non-Proliferation treaty under article 6.

372-2 Furthermore, the environmental impact statement is clearly illegal by not offering truly viable alternatives including downsizing what we do now at Los Alamos. This violates the National Environmental Policy Act.

372-3 In addition ~~you are~~ the site proposed is at the headwater of the most viable water source in the state. My wish is that Los Alamos would act to protect our already impoverished state by not facilitating more nuclear poison being released into our environment for the benefit of monetary gain for a few. This is not in the interests of ~~Nuclear~~ National security.

Sincerely

Marjorie S. Allen
446 Alcazar NE
Albq. NM 87108

372-1 NNSA notes the commentor's opposition to the proposed construction and operation of the CMRR-NF and to the production of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

372-2 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

372-3 The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS. Water resources are addressed in Sections 4.2.6, 4.3.6, and 4.4.6 of the SEIS.

Commentor No. 373: Melissa Larson

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667–5948); or e-mail : NEPALASO@doeal.gov   Deadline June 28, 2011

NO THANKS. WE DON'T NEED MORE NUCLEAR WEAPONS OR NUCLEAR DANGER HERE IN NORTHERN NEW MEXICO. WE HAVE SEEN FUKISHIMA & WHAT HAPPENED THERE WHEN THE EARTH QUAKED. **373-1**

THE LAND AT LOS ALAMOS IS NOT STABLE ENOUGH TO SUPPORT THE WEIGHT OF THE CONCRETE THEY ARE PROPOSING LET ALONE WHAT WOULD HAPPEN IF 6.6 TONS OF PLUTONIUM IS RELEASED INTO THE ENVIRONMENT. **373-2**

WAR IS POLLUTING & NUCLEAR POWER IS POLLUTING, SO WE ENDANGER ALL LIFE FORMS WITH THIS TOXIC THREAT TO OUR ENVIRONS. **373-1 cont'd**

IT IS CRUCIAL THAT LOS ALAMOS NUCLEAR LABORATORY, CLEAN THE MESS IT HAS ALREADY CREATED. A FULL ENVIRONMENTAL IMPACT STATEMENT NEEDS TO BE PRODUCED TO ACCOUNT FOR THE COMPLETE VARIATION IN DESIGN ~~AND~~ ONLY IF THE PLAN IS FOR A SAFE NUCLEAR FACILITY, WHICH ENDANGERS NO LIFE AND IT ALSO CLEANS UP THE MESS IT HAS MADE. IF IT DOES NOT ALLOW ANY MORE NUCLEAR WASTE TO ACCUMULATE, THERE W/BE A CHANCE FOR SAFETY OR ANY LIFE TO CONTINUE. NOW STOP, CLEAN UP, AND BEFORE YOU BUILD ANY MORE, FIX WHAT HAS BEEN DONE. **373-3**

(see reverse) →

373-1 NNSA notes the commentor's opposition to nuclear weapons and nuclear power. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

373-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar

Commentor No. 373 (cont'd): Melissa Larson

373-4

PS. THE CURRENT FIRE MAY PUT A STOP TO THIS WHOLE NONSENSE, THOUGH I REALLY HOPE WE HAVE A CHANCE FOR SURVIVAL AFTER THAT. FORGET THE PLUTONIUM. LOOK INTO THORIUM FOR ELECTRIC GENERATION + STOP PUTTING TOXIC WASTE + PLUTONIUM ON OUR MOUNTAIN! THINK... GET SMART.

MELISSA LARSON
PO BOX 1057
Ranchos de Taos, NM 87557
575-751-9862

concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Under no circumstances would 6.6 tons of plutonium be released to the environment; as described in Appendix C, even during the most severe accident, the amount of plutonium estimated to be released from the CMRR-NF would be small. The environmental consequences on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the SEIS.

373-3 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

NNSA notes the commentor's position that a new environmental impact statement is needed rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

As summarized in Section 2.5, Cleanup and Waste Management, of this CRD, the CMRR-NF and RLUOB would be designed, constructed, and operated to accommodate the projected waste volumes to be generated at the facilities. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12.

373-4 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire

Commentor No. 373 (cont'd): Melissa Larson

LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Electrical power generation is outside the scope of the *CMRR-NF SEIS*.

Commentor No. 374: Laura Zwibovich

We Demand a complete EIS

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667–5948); or e-mail : ***NEPALASO@doeal.gov***.

Deadline June 28, 2011

As the FIRE rages & races out June 27, 2011
of control towards Los Alamos & we
suffocate w/ smoke & fear I write
to you demanding an immediate
end to this nuclear madness
that was hatched right there on that
hill. Nature is speaking to you w/
such uncompromising force that
surely you must get the message.
This is not the horror of Fukashima –
this is the horror in our back
yard – To continue on with your
CMRR Complex Project would be no less
than criminal insanity – Look into
your own hearts – into the eyes of your
children & their children – Do you want
the for profit nuclear destruction of life
on earth to be your legacy? Remember
the tragic death of your brother
nuclear scientist who jumped off the
Gorge Bridge after the disaster at
Fukashima. Do you think those 2 events
were unrelated? Life on earth & your
own souls hang in the balance. Stop Now!

374-1

374-1 NNSA notes the commentor's opposition to the construction and operation of a new CMRR Facility at LANL, and the concerns of the Fukushima Daiichi Nuclear Power Plant accident. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

NNSA also notes the commentor's position that a new complete environmental impact statement is needed rather than an SEIS. NNSA determined that an SEIS is the appropriate level of analysis, because of CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Commentor No. 375: Pedro Trujillo

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: 6/21/11

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

Los Alamos is vulnerable to earthquakes, wildfires, floods, and possible volcanic events. Los Alamos is not a good location for a nuclear facility.

This project needs to be stopped. **375-1**

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Pedro Trujillo
Address/Dirección: HC 78 Box 10315
City, State, Zip Code/Ciudad, Estado, Zona Postal: Ranchos de Taos, NM 87557

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

375-1 NNSA notes the commentor's opposition to the CMRR-NF project. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

In response to public comments on the possibility of volcano activity in the LANL region, Appendix C, Facility Accidents, and the Geology and Soils sections of Chapter 3 and 4 (Sections 3.5.1 and 4.3.5), of the *Final CMRR-NF SEIS* have been revised to include additional information regarding the potential volcanic hazards as described in the report, *Preliminary LANL Volcanic Hazards Evaluation* (LANL 2010c). A volcanic eruption during the life of the CMRR-NF is an unlikely event. A variety of volcanic phenomena could occur as a result an eruption with a dispersion of a large ash cloud likely to affect a large area of the region. As discussed in Appendix C, such an event would have consequences that are represented by other accidents analyzed in the SEIS.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources). See the response to comment 355-4 regarding the risk of a volcanic eruption.

Commentor No. 376: Carrie Leven

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: June 28, 2011

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

(1) The Supplemental EIS is not sufficient to assess the impacts of the new design of CMRR-NF, plus new design with increased earthquake protection is not finished. ~~I~~ Want a new EIS written after new plan/design is complete. **376-1**

(2) Increasing cost to build CMRR complex is too high and ~~estimat~~ final costs will be higher, due to the area being geologically unsafe for this facility. DOE please analyze cost/benefits for this location. **376-2**

(3) Please clean up existing legacy waste sites first, spending money on new facility, NMED gave order to clean up Area G dump and others - not construct new site creating more pollution needing disposal. **376-3**

(4) DOE needs to conduct a "capacity study" to see if they can use the curreent facilities - Existing facilities have sufficed since 1999 with plutonium pit manufacturing limited to 20 per year - We don't need more. **376-4**

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Carrie Leven

Address/Dirección: 2382 old Red River RD

City, State, Zip Code/Ciudad, Estado, Zona Postal: Questa, NM 87556

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

376-1 NNSA notes the commentor's request for a new EIS after the design is complete. NEPA documentation is performed while the design of a project is still underway in compliance with DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets. There is enough design information available to perform a NEPA analysis for the CMRR-NF project. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazard analyses of the LANL region (LANL 2007, 2009). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See also Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

376-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

376-3 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

376-4 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and

Commentor No. 376 (cont'd): Carrie Leven

materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 377: Barbara Silverman

To: Mr. John Tegtmeier, CMRR-NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544
Re: CMRR-NF SEIS Comment
Date: June 24, 2011

Dear Mr. Tegtmeier:

I oppose the construction of the CMRR Nuclear Facility at the Los Alamos National (LANL) for the following reasons:

MORAL ISSUES

Nearly every major religious body has declared it immoral to not only use, but also to build and threaten to use weapons of mass destruction. Even if never used, the production and presence of nuclear weapons harms huge numbers of innocent civilians. Threats to use weapons of mass destruction tends to cause other nations to want to build their own out of fear. The more weapons out there, the more chances exist for terrorists to get ahold of them.

It is also immoral to cut services to the poor and disadvantaged populations in order to pay for weapons of mass destruction. In a declining economy and a world facing global warming, we have a moral obligation to use our resources for more urgent human needs.

377-1

Thank you for your consideration. I would like to receive only the summary of the final EIS, not the full report.

Barbara Silverman
120 Camino Matias
Santa Fe, NM 87501

377-1 NNSA acknowledges the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, health care and alternative sources of energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 378: Whitney M. Nieman

Supplemental EIS for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory, Los Alamos, New Mexico

Comment Form
Forma para comentarios

Thank you for your input
Gracias por su participación

Date/Fecha: June 28, 2011

PLEASE PRINT / FAVOR DE ESCRIBIR CLARAMENTE

1. What comments do you have on the Draft SEIS?
¿Que comentarios tiene usted sobre el Draft SEIS?

378-1

As I sit here in Taos to write my sincerest request for a "No Action" Alternative in the SEIS for the CMRR Project, I watch enormous clouds of smoke coming from Las Conchas Fire too near Los Alamos. These smoke signals are sending a powerfully poignant message to WAKE UP! to the single most important issue of the 21st Century: CLIMATE CHANGE with its extreme weather conditions. As the Earth is still reeling, wobbling from the Fukushima Nuclear Power Plant disaster AND 2 nuclear reactors are being shut down in the massive Midwest flooding, Time's Up! Throw off the 20th Century Cold War mindset of the seductive power of nuclear energy/weapons technology. It's a DEAD END... and very expensive on all fronts. I implore you: Harness! every one of your brilliant BRAIN cells connecting to the heart of humanity and Become! the cutting edge of the necessary Green Technology for powering our homes, transportation, industries and cities. Put your energy into Green Restoration of our earth, air, and water, revitalizing our Planet from the contamination of toxic and radioactive wastes. More nuclear warheads from your pit production will not bring security and peace, rather increase proliferation and terrorism.
BE the HEROES of the 21st Century by mitigating Climate Change and Regreening our Planet. THANK YOU!

** CONTINUE ON BACK FOR MORE SPACE **
** CONTINUAR AL DORSO PARA MAS ESPACIO **

Name/Nombre: Whitney M. Nieman Whitney M. Nieman
Address/Dirección: P.O. Box 357
City, State, Zip Code/Ciudad, Estado, Zona Postal: El Prado, NM 87529

NOTE: Please do not include personal information (such as address or phone number) if you object to it being included in the SEIS; comments received are included in the SEIS in their entirety.
NOTA: Favor de excluir información personal (dirección o número de teléfono) que no desea aparezcan en el SEIS; todo comentario recibido es incluido en su totalidad en el SEIS.

My understanding is the deadline is 6/28/11 wmn

PLEASE HAND THIS FORM IN OR MAIL BEFORE JUNE 28, 2011, to:
FAVOR DE ENTREGAR ESTA FORMA O ENVIARLA POR CORREO ANTES 28 DE JUNIO 2011 A:

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager • U.S. Department of Energy
National Nuclear Security Administration • Los Alamos Site Office • 3747 West Jemez Road, TA-3, Building 1410
Los Alamos, New Mexico 87544

378-1 NNSA acknowledges the commentor's opposition to the construction and operation of a new CMRR Facility at LANL and the commentor's request for a "No Action" alternative. The No Action Alternative included in the *CMRR-NF SEIS* is to implement the decision made following preparation of the original *CMRR EIS* in 2003 (that is, to take no action that differs from the previous decision). Implementing a no action alternative, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Refer to Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the 2003 *CMRR EIS* (69 FR 6967).

Funding decisions regarding major Federal programs (for example, health care and alternative sources of energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 379: Deborah Michalak

John Tegtmeier,
CMRR-NF SEIS Document Mngr
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

June 22, 2010

Dear Mr. Tegtmeier,

379-1 I urge you to do everything in your power to enact an entirely new EIS for the CMRR-NF, rather than relying on the supplemental EIS. The building of nuclear facilities should never be taken lightly, even when there is political or economic incentive for their construction, and in this case, I find there to be very little of such incentive. I'm concerned that the necessity of this facility is marginal, and its primary purpose is commercial gain for the nuclear industry. Our country is built on capitalism, but I find it reprehensible to turn our backs on capitalism that puts our country's health safety and environmental resources on the line for the benefit of a few individuals—while paying for it out of taxpayers' pockets. In our current economic crisis, I feel that government money should be carefully placed in order to stimulate the most needy of our country's economies, not to give boons to already welll-off counties such as Los Alamos.

Thank you for considering my perspective.

Regards,

Deborah Michalak

Deborah Michalak

Deborah Michalak
Post Office Box 604
Crestone, CO 81131
[redacted]

379-1 NNSA notes the commentor's request for a new EIS. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Commentor No. 380: Charles R. Powell

Charles R. Powell
P.O. Box 20451
Albuquerque, NM 87154

June 20, 2011

John Tegtmeier
Los Alamos National Laboratory
3747 W. Jemez Rd
Los Alamos, NM 87544

Dear Mr. Tegtmeier:

I strongly oppose the construction of the CMRR. We do not need additional nuclear weapons. We already have more than enough. 380-1

There is no way such a facility is safe. Los Alamos sits on an earthquake fault. The location is at the headwaters of the Rio Grand. 380-2

380-1 NNSA acknowledges the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

380-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Stormwater Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Stormwater Pollution Prevention Plans includes a number of

Commentor No. 380 (cont'd): Charles R. Powell

Production of more pits for more weapons will result in more nuclear waste. There is already an existing mess that requires cleanup.

Expanding US capacity to build nuclear bombs could compromise US efforts for nonproliferation and nuclear arms Reduction.

380-1 cont'd

There has been no EIS for CMRR. The supplemental EIS is inadequate and should be withdrawn until a completely new EIS can be prepared.

380-3

Sincerely,
Charles R. Powell

temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment (see Chapter 4, Sections 4.2.6, 4.3.6, and 4.4.6 regarding impacts on water resources).

380-3 NNSA notes the commentor's support for the preparation of a new environmental impact statement. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action.

Commentor No. 381: Marilyn G. Hoff

June 27, 2001

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road, TA-3 Building 1410
Los Alamos, New Mexico, 87544

To Whom It May Concern:
Here are my comments on the CMRR-NF SEIS:

1. A Complete, New Environmental Impact Statement (EIS) is Needed, *Not* A Supplemental Environmental Impact Statement (SEIS). A SEIS cannot adequately assess the impacts of a completely redesigned CMRR-NF building for the processing of plutonium and nuclear materials at LANL. The original EIS of 2004, now supplemented by the SEIS, assessed a building designed to withstand only mild seismic events. As I write, LANL awaits a humungous fire which will surely in mere hours spread deadly pollution to where I live. Moreover LANL sits between the Rio Grande rift and the volcanic Jemez Mountains in a seismic fault zone. There have been predictions of a potential huge increase in seismic ground motion and activity. Given the instability of its building site, the most recent vastly fortified design for this building is still in flux. Uncertainty also clouds whether corners will be cut in the building's fire suppressant systems, made necessary by the extreme combustibility of plutonium. Not only is a SEIS inadequate to the new scope of the project, it is premature, because the building's design is not finalized. Only an EIS can adequately study the full impact of this much-altered building, and until the design is finalized, even an EIS would be premature. ***381-1***

2. The Costs of Trying to Build a Plutonium Pit Production Complex in a Geologically Unstable Area Are Just Too High. The total original estimate for the CMRR Complex Project, including the recently completed $363 million Radiological Laboratory Utility and Office Building (RLUOB), was around $600 million in 2004. The current estimate for the Nuclear Facility alone is $5.8 billion and rising. DOE must analyze whether this growing price tag is too high a premium to pay for a new Nuclear Facility (NF) in this questionable location. ***381-2***

3. The SEIS Must Study Whether the Unstable Geological Strata Can Support the Weight of the Redesigned Building. To address these increased seismic hazards, DOE is considering plans to excavate 225,000 cubic yards of earth under the proposed NF and fill the hole with concrete. DOE must question: Can the surrounding geology support all that concrete? Would a seismic event cause the concrete "slab" to sink or shift? The SEIS also suggests a "Shallow Option" (floating the building's foundation above the geologically unstable tephra layer), an option whose feasibility is unknown, needing the further study of a complete EIS. ***381-3 cont'd***

4. A New Nuclear Facility Will Detract from Cleanup of the Existing Mess. DOE made a commitment to clean up the legacy waste sites at LANL when it signed the Consent Order with the New Mexico Environment Department on March 1, 2005. The Order requires cleanup of certain sites by December 31, 2015, including the Area G dump site at Technical Area 54. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds for clean-up, not a new NF which will only add to the pollution. ***381-4***

5. New Alternatives Must Be Considered. DOE must develop more alternatives, including (a) a true "No Action" alternative of not building the Nuclear Facility; and (b) upgrading the existent old CMR building. The SEIS briefly considered and dismissed these alternatives as insufficient to "satisfy the entire range of DOE and NNSA mission support functions." The so-called "No ***381-5***

381-1 NNSA notes the commentor's support for the preparation of a new environmental impact statement. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. NEPA documentation is performed while the design of a project is still under way as required by DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets. There is enough design information available to perform a NEPA analysis for the CMRR-NF project.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

The CMRR-NF would be designed using information from the most recent studies and understanding of seismicity of the LANL region (LANL 2007, 2009); it would continue to function safely in the event of a design-basis earthquake. Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 381 (cont'd): Marilyn G. Hoff

Action" alternative featured in the current SEIS is to build a new CMRR building as projected in 2003 (a design failing to meet new seismic standards). The other featured SEIS alternative is to continue operations at the old, unsafe CMR Building, without upgrades. Both "alternatives" are obviously undesirable and are therefore bogus. The only alternative presented to seem workable is the new, still evolving, exorbitant CMRR-NF design to be built on shaky ground. **381-5 cont'd**

6. The US does not need 80 new plutonium pits per year. DOE must conduct a "capacity study" to determine whether the existing facilities can be used instead of building the proposed NF, which would increase pit manufacturing capacity to at least 80 per year. Existing facilities have sufficed since 1999 when DOE limited plutonium pit manufacturing to 20 per year. Since US treaty obligations forbid both new nuclear designs and increased numbers of nuclear weapons in the US arsenal, the pits to be manufactured are touted as "stockpile stewardship" for maintaining existing nuclear weapons through replacement of old pits. However, a Jason study of aging plutonium argues against the need for pit replacement within the next hundred years. **381-6**

7. Boosting US capacity to build nuclear bombs could compromise US efforts for nuclear arms reduction, for the completion of non-proliferation treaties, and for persuading non-nuclear nations to abstain from acquiring their own nuclear weapons. President Obama's call for a "world free of nuclear weapons" rings hollow, as he also proposes a windfall to the nuclear industry to increase its nuclear weapons-making capacity. Will this double message increase worldwide distrust of US intentions and thus ratchet up the world's nuclear tensions? **8. Nuclear Weapons are Obsolete.** They do not increase national security. They did not prevent 9-11. They can't defend against terrorist attack. They can't be used against terrorists, who have no single country of residence. They haven't "deterred" the US from waging war. Making more and more US nuclear weapons could spur a new nuclear arms race, as other nations feel the need for their own nuclear arsenal to counteract a US build-up. Burgeoning bombs would spur nuclear proliferation and boost the chance of terrorists acquiring loose nukes, undeterred by US "nuclear deterrence" from using them. Investment in these genocidal weapons, never to be used in a sane world, is money down a sewer. High alert nukes can now be launched by one tiny mistake. Making more nuclear weapons brings the world closer to nuclear war. **381-7**

9. Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Los Alamos National Laboratory inherited the US pit manufacturing function from Rocky Flats in Colorado. Rocky Flats became so polluted and unsafe that it had to be shut down. Rocky Flats had repeated plutonium fires, two of which came perilously close to breaching containment and spreading vaporized plutonium to the environment and likely rendering Denver uninhabitable. Plutonium is a killer carcinogen. LANL's discharges disproportionately sicken Native peoples and Hispanic New Mexicans. **381-8**

10. Money spent on Unusable Nuclear Weapons Does Not Spur Economic Growth. It goes down the black hole of corporate pockets. Los Alamos, the richest county per capita in the US, does not need US budgetary charity, but it consumes a lion's share of federal funds coming to New Mexico. The rest of New Mexico, one of the nation's poorest states, cries out for the fulfillment of real human needs. Moneys for education, health care, green jobs, renewable energy, public transportation, all would keep circulating and get our economy growing again. **381-9**

Sincerely,

Marilyn G Hoff

Marilyn G.Hoff
PO Box 295, El Prado, NM 87529

NNSA is aware of the risks associated with the operation of its current and future facilities. These risks are mitigated through compliance with Federal, state, and local laws and regulations that protect the public and environment, and through process design and operational procedures. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program.

Shortcuts are not being taken with respect to the fire suppression system that would be installed at the proposed CMRR-NF. One of the reasons that the facility has grown substantially since 2003 is the placement of fire control water in the facility.

381-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

381-3 The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option. A draft slope stability analysis has been prepared that indicated that global slope stability is not an issue for the Deep Excavation Option (LANL 2011a: LANL site, 028). If the Deep Excavation Option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed.

Commentor No. 381 (cont'd): Marilyn G. Hoff

381-4 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

381-5 The No Action Alternative included in the *CMRR–NF SEIS* is to construct and operate a new CMRR–NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR–NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR–NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR–NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR–NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

381- 6 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production),

Commentor No. 381 (cont'd): Marilyn G. Hoff

but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

381-7 President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

381-8 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives

Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

Commentor No. 381 (cont'd): Marilyn G. Hoff

381-9 Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 382: Margaret K. Burlingame

June 25, 2011

John Tegtmeier
SEIS Document Manager
3747 West Jemez Road
Los Alamos, NM 87544

Dear Mr. Tegtmeier:

I strongly oppose the construction of the CMRR Nuclear Facility at the Los Alamos National Laboratory. LANL sits on a windswept mountain top in a seismic area where wildfires and contaminated runoff continue to threaten the health of all who live downwind and downstream from LANL. Plutonium and other radionuclides were found in organic gardens downwind from Los Alamos after the 2000 Cerro Grande fire. There is evidence also of groundwater pollution from the Laboratory. Radionuclides have already been detected in the Rio Grande, the source of drinking water for many citizens living downstream from LANL. Plutonium has a half-life of 24,000 years. In addition to cancer, radioactive materials can cause serious birth defects. This disproportionately impacts minority populations, especially Native and Hispanic, making it an issue of environmental justice. *382-1*

The Department of Energy estimated that the maximum amount of water needed for constructionwould be 4.6 million gallons per year. However, an independent analysis figure was that 6.75 million gallons per year would be needed. The water would be used in mixing 225,000 cubic yards of concrete needed under the structure to meet safety requirements, i.e. seismic incidents. *382-2* The existing waste at LANL needs to be cleaned up before more radioactive or toxic waste is generated there. Taxpayer funds need to go first for cleanup instead of cutting domestic services to fund a $6 billion project which most U.S. citizens do not want to fund. Do you realize there are cynics in Santa Fe who contend that CMRR is not for the security of the population but for the prosperity of the munitions makers? *382-3*

Sincerely,

Margaret K. Burlingame

Margaret K. Burlingame
112 Camino Santiago

Santa Fe, NM 87501

P.S. There are not enough superlatives in the language to express my apologies for this vicious IBM machine. Be thankful I'm a librarian and not a physicist.
MKB

382-1 NNSA acknowledges the commentor's opposition to the construction and operation of a new CMRR Facility at LANL. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials, including vegetation, are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

A summary of possible public health impacts resulting from the May 2000 Cerro Grande fire is included in Chapter 4, Section 4.6.1.3, Radionuclides and Chemicals in the Environment Around Los Alamos National Laboratory, of the 2008 *LANL SWEIS* (DOE 2008a). In summary, it was concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future as a result of the fire (ATSDR 2006).

Commentor No. 382 (cont'd): Margaret K. Burlingame

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Stormwater Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Stormwater Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment (see Chapter 4, Sections 4.2.6, 4.3.6, and 4.4.6 for impacts on water resources).

Chapter 3, Section 3.10, of the *CMRR-NF SEIS* has been updated to include additional information on the minority and low-income populations surrounding LANL. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority or low-income populations, including Native Americans and Hispanics, under any of the alternatives.

382-2 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information.

382-3 Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are

Commentor No. 382 (cont'd): Margaret K. Burlingame

not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 383: Erich Kuerschner

Comments: CMRR-NF SWEIS
From:

Erich Kuerschner erichwwk@gmail;
HCR 74 Box 24614
El Prado, NM 87529
575-776-8682 or 575-770-3338 (c)

Date: July 5, 2011

To: [by email and certified mail]

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road, TA-3 Building 1410
Los Alamos, New Mexico, 87544
fax: (505) 667-5948
e-mail: NEPALASO@doeal.gov

Dear Mr. Tegtmeier:

383-1 Please include what is mostly my Oped, published June 23, 2011 in Taos News along with four other Oped's questioning LANL's actions, with a few additional comments, as my "official" comment (3 pages-1,070 words) into the SWEIS record. I was not allowed to present this orally when you visited Taos on June 8, 2011. I consider limiting the study of 'alternatives" to those which benefit Bechtel and involve ONLY increased supply solutions -there is not one reduced demand solution, nor is their an explanation for this exclusion as required by law- self-serving, contrary to the intent of NEPA and the purpose of an EIS statement, and very likely illegal.

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The Department of Energy [DOE], and the sub-agency that manages the nuclear weapons program, the National Nuclear Security Administration [NNSA] seems more concerned with maintaining their high incomes and profits than with the interests of citizens. The vehicle for doing this is to swap sham law for good law.

With good laws we get not only full employment, but employment that is meaningful. One example of a good law is the National Environmental Protection Act [NEPA] that

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383-1 NNSA acknowledges the commentor's op-ed, published June 23, 2011.

NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

Commentor No. 383 (cont'd): Erich Kuerschner

requires that environmental impact statements (EIS) required of federal agencies must include alternatives to the proposed action. **The Council of Environmental Quality explicitly states that alternatives are the heart of an EIS** [Sec. 1502.14]. It says that agencies shall [**must**]:

(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.

(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

My first experience with NEPA occurred in the summer of 1972, when I was asked to join the Skidmore, Owings, Merrill Environmental Study Group [SOM-ESG] to participate in preparing an EIS for the State of Oregon on addressing congestion in East Portland.

What the US Highway Department saw as insufficient capacity solved by more asphalt was defined by the SOM-ESG as one of inefficient use of commuter time. By looking at the problem broadly, including alternatives that decreased demand, the problem was NOT solved by building the extra twelve lanes anticipated by extrapolating present use into the future. A more cost effective solution was to reduce demand for roads by land use regulations that reduced trip time and distance by improving public transportation of buses and streetcars and, finally, by converting funds earmarked for interstate highway construction to a light rail system.

An example of a sham law is the Supplemental Environmental Impact Statement [SEIS] being scammed by LANL to avoid looking at alternatives to their vision of its proposed new Chemical & Metallurgy Research Replacement-Nuclear Facility [CMRR-NF] to avoid the transparent benefit-cost analysis actually mandated under NEPA.

383-2

The 2003 EIS process permitted a CMRR building whose stand alone price tag was perhaps $300 million. The fact that the current price has ballooned to upward of $6 billion is enough, BY ITSELF, to invalidate the original permit to build and MANDATE the study of alternatives, and a new EIS. With this twenty-fold DECREASE in the benefit-to-cost ratio, many of the previously rejected alternatives are now more appropriate. **The purpose of an EIS to ensure that an agency does not reject appropriate alternatives from the perspective of the public in pursuit of self interest.**

In addition to what I consider an illegal use of an SEIS, the Global Security Network reported that U.S. Armed Services Committee on May 12 passed an amendment sponsored by Doug Lamborn (R-Col) as part of the FY2012 Defense Authorization Bill

2

383-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 383 (cont'd): Erich Kuerschner

that "prohibits the administration from making any cuts to what Republican panel members dubbed the 'nuclear hedge force' until the CMRR site at the Los Alamos National Laboratory is operational. During the House committee debate, Democratsled by Strategic Forces subcommittee Ranking Member Loretta Sanchez (Calif) and Rick Larsen (Wash)–argued that the various strategic force amendments amounted to nothing more than a power grab by GOP members." *383-2 cont'd*

Town of Taos Mayor Darren Cordova has asked LANL to conduct a hearing in Taos, so that citizens will be able to have an opportunity to voice their concerns re security, health, economics, and values. LANL's John Tegtmeier has responded that there is money for a 'telling' but not for a hearing in Taos. Besides he claims that Taosenos either don't care, or are not important enough to matter. But I suspect that the reason for disallowing comments is to obfuscate, and confuse the public as to the legality of DOE/NNSA/LANL actions. *383-3*

As General Omar Bradley stated:

> *"We live in an age of nuclear giants and ethical infants, in a world that has achieved brilliance without wisdom, power without conscience. We have solved the mystery of the atom and forgotten the lessons of the Sermon on the Mount. We know more about war than we know about peace, more about dying than we know about living".*

Or in the words of late Stewart Udall :

> ***"There is nothing comparable in our history to the deceit and the lying that took place as a matter of official Government policy in order to protect [the nuclear arms] industry. Nothing was going to stop them and they were willing to kill our own people."***

I am truly sorry that NNSA/DOE/and LANL will not consider true alternatives, and continues its self serving policy leaving civil disobedience and litigation as the main avenues for resolving the issue of appropriate nuclear weapons solution for plutonium and stockpile management at Los Alamos, as alternatives to limiting solutions to those that serve a dual purpose of ALSO allowing a fast response to increased nuclear weapons production. Shame. *383-2 cont'd* It violates the intent of the very First United Nations Resolution, as well as Article VI of the Nuclear Non-Proliferation Treaty. *382-4*

The Best

Erich Kuerschner, Public Choice Economist
HCR 74 Box 24614
El Prado, NM 87529
[redacted] or [redacted] cell email: erichwwk@gmail.com

3

383-3 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

383-4 NNSA acknowledges the commentors' concerns about treaty compliance, international law, pit production, and the proliferation of nuclear weapons. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Commentor No. 384: Ann-Nicole Cain

Dear mr. John Tegtmeier, June 27, 11

I am writing to you on behalf of an organization of fish called - F.A.H.Q. also known as Fish Against Human Quarrels. The fish find it difficult to write due to their lack of dextrous digets so I volunteered to bring their messages to you & your organization.

384-1 The fish would like you to know that they prefer their water to be free of all radioactive materials They are sending this fish from the future as an example of what can happen to them if more radioactive materials are released from LANL into the Rio Grande.

384-2 They would like to remind you that LANL sits on a seismically active area & they feel it is very very unsafe to

384-1 NNSA notes the commentor's concerns regarding water quality, seismic and wildfire hazards, and general opposition to nuclear weapons.

LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Stormwater Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Stormwater Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment. All radioactive liquids would be transferred to RLWTF. At RLWTF, the liquids would be treated to meet discharge criteria and released through a permitted outfall or to a zero liquid discharge facility. Other liquids would be routed to the Sanitary Waste Water System, where they would be treated prior to discharge through a permitted outfall.

384-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

This SEIS does not address disposal of Greater-Than-Class C waste. Disposal of this waste is analyzed in another DOE NEPA document (DOE/EIS-0375-D).

Commentor No. 384 (cont'd): Ann-Nicole Cain

open a pit to store GTCC. Also they would like to remind you that wildfires are a real + active force in the area. There is not much worse than radioactive water except maybe radioactive air + ash from fires. Please make a real E.I.S. No Nukes are good nukes! "Zero nuclear activity in New Mexico + the world". - from the fish.

Thank You!
from F.A.H.Q.

You may use my personal info to enter this fish + comment into the public record.

Ann-Nicole Cain + the fish
6275 NDCBU
Taos, N.M. 87571 [redacted]

P.S. The fish would like more time for public comments

384-3

384-4

384-5

384-3 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

384-4 NNSA acknowledges that there is substantial opposition to nuclear weapons. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

384-5 In response to the Las Conchas fire, which affected the Los Alamos community, NNSA extended the public comment period to July 5, 2011. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

Commentor No. 385: Janet Greenwald
Citizens for Alternatives to Radioactive Dumping

6/20/11

John Tegtmeier
Los Alamos National Laboratory
3747 West Jemez Rd.
Los Alamos NM
87544

Dear Mr. Tegtmeier,

385-1 We oppose the construction of the CMRR nuclear facility. There are no alternatives offered in the draft Environmental Impact Statement, which goes against the national National Environmental Policy Act.

385-2 The proposed site of the CMRR building is in an earthquake zone.

385-3 The proposed CMRR building would be built at Los Alamos, one of the headwaters of the Rio Grande. There are already radionuclides in the Rio Grande which is now one of the sources of Albuquerque's

385-1 NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

385-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

385-3 LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Stormwater Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Stormwater Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative. Under all three alternatives, there would be no operational discharges directly to the environment (see Chapter 4, Sections 4.2.6, 4.3.6, and 4.4.6 for impacts on water resources).

Commentor No. 385 (cont'd): Janet Greenwald

drinking water.

385-3 cont'd

Who is the enemy who can be stopped by the bombs that would contain the pits made in the CMRR building? The Jason Committee has stated that we will be secure with the bombs we have for the next 100 years.

We feel that the motive behind building the CMRR is not a practical one, but rather [illegible] one of greed.

385-4

Sincerely,

Janet Greenwald, Coordinator
Citizens for Alternatives
to Radioactive Dumping (CARD)
202 Harvard SE
Alb NM 87106

385-4 NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a). It should be noted that plutonium aging is only one of the variables affecting nuclear weapon system reliability; other variables can control overall life expectancy of nuclear weapon systems.

Commentor No. 386: D. Jason Lott, Superintendent U.S. Department of the Interior, National Park Service, Bandelier National Monument

United States Department of the Interior
NATIONAL PARK SERVICE
Bandelier National Monument
15 Entrance Road
Los Alamos, New Mexico 87544-9701

IN REPLY REFER TO
L76(BAND)

JUN 1 3 2011

Mr. John Tegtmeier, CMRR SEIS Document Manager
U.S. DOE/NNSA
Los Alamos Site Office
3747 West Jemez Road, TA-3 Building 1410
Los Alamos, NM 87544

Re: Draft Supplemental Environmental Impact Statement for the Nuclear Facility Portion of the Chemistry and Mettallurgy Research Building Replacement Project at Los Alamos National Laboratory (SEIS CMRR) – Bandelier National Monument Comments

Dear Mr. Tegtmeier:

Bandelier National Monument, a unit of the National Park Service, Department of Interior, has been invited to comment on the Draft Supplemental Environmental Impact Statement for the above referenced CMRR project. Based on our review, we are concerned that the project may worsen safety conditions and the visitor experience at Tsankawi Unit on Highway 4 due to construction phase traffic impacts. We have summarized some concerns below, and by copy of this letter request a meeting at your earliest convenience to discuss these concerns with appropriate LASO staff. *386-1*

- Construction shipments will pass by the parking area serving Tsankawi Unit, and may result in short-and long-term construction traffic parking at the parking area. NPS does not manage the parking area and has limited ability to influence the presence of commercial vehicles there.
- Construction shipments – due to their size and slow braking capacity relative to automobiles and due to potential congestion at the Hwy 4/Truck Route intersection - may worsen traffic safety conditions for park visitors entering or exiting the Tsankawi Unit parking area. *386-2*
- Cumulative traffic increases may worsen traffic safety conditions for park visitors entering or exiting the Tsankawi Unit parking area, with special emphasis on the *386-3*

386-1 As requested, NNSA scheduled a meeting with the U.S. Department of Interior at Bandelier National Monument. Chapter 2, Section 2.6.2.1, of the *CMRR-NF SEIS* presents a discussion of construction activities associated with the Modified CMRR-NF. This discussion includes a description of the parking area that would be built in TA-72, along the south side of East Jemez Road. To minimize the potential for construction workers to use public parking areas, all craft workers would be required to board a bus to access the CMRR-NF construction site. The bus would only board at the designated craft worker parking lot planned for TA-72 along East Jemez Road. Equipment and material deliveries would be directed to arrive at the LANL vehicle inspection portal during off-peak hours to avoid peak traffic flows. This would minimize the need for suppliers to park their vehicles off the LANL site before passing through the vehicle inspection portal. For special deliveries that require large parking areas, arrangements would be made to ensure that parking areas would be located on the LANL site as close to the CMRR-NF construction site as possible.

386-2 Chapter 4, Sections 4.2.13, 4.3.13, and 4.4.13 of the *CMRR-NF SEIS* present the estimated impacts on transportation and traffic associated with the various alternatives. None of the proposed alternatives would result in a change to the level of service of roadways in the vicinity of LANL including SR-4, SR-501, and SR-502. Furthermore, the estimated impacts associated with transportation accidents under all alternatives would be small.

As indicated in the response to Comment 386-1, construction deliveries would be directed to arrive at LANL during off-peak traffic flows. The timing of deliveries as well as the relatively low number of daily deliveries would help minimize traffic congestion along Highway 4 and the entrance to the LANL vehicle inspection portal. Vehicles required to pass through the vehicle inspection portal would be provided with an access ramp that would enable them to wait in line for inspection without interfering with routine traffic flows. Also, the majority of delivery vehicles are expected to use the southbound lane of Highway 4, which would minimize traffic along the northbound lane, which is used by visitors entering or exiting the Tsankawi Unit.

386-3 Chapter 4, Sections 4.2.13, 4.3.13, and 4.4.13, of the *CMRR-NF SEIS* present the estimated impacts on transportation and traffic associated with the various alternatives. None of the proposed alternatives would result in a change to the level of service of roadways in the vicinity of LANL including SR-4, SR-501,

Commentor No. 386 (cont'd): D. Jason Lott, Superintendent U.S. Department of the Interior, National Park Service Bandelier National Monument

late afternoon, when construction workers are traveling home and visitation at the unit may still be relatively high. **386-3 cont'd**

- Vibration and noise from construction-related traffic may reduce the quality of the visitor experience at Tsankawi Unit. **386-4**

If you have any questions regarding these comments and to schedule a meeting as requested, please contact Barbara Judy, Chief of Resources at 505-672-3861 x 701 or Barbara_Judy@nps.gov.

Sincerely,

D. Jason Lott
Superintendent

TAKE PRIDE IN AMERICA

and SR-502. Furthermore, the estimated impacts associated with transportation accidents under all alternatives would be small.

The CMRR Project would mitigate traffic increases along Highway 4 by controlling the timing and parking location of workers and deliveries. Craft workers would arrive before peak morning traffic flows occur and would finish the day and leave the parking area on East Jemez Road before peak afternoon traffic flows occur. They would not contribute to the traffic flow during the day as they would be restricted to the CMRR-NF construction site. Craft worker traffic entering or leaving the parking area would be controlled by two traffic lights: one at the entrance to the parking lot and one at the intersection of East Jemez Road and Highway 4. These lights would help ensure that safe access to the Tsankawi Unit and Highway 4 would be maintained for persons entering and exiting the unit. Construction deliveries would also be restricted to off-peak traffic hours and would be provided an area to wait for inspection that minimizes impacts on routine traffic flows. Delivery vehicles would merge with westbound traffic after being inspected further minimizing impacts on routine traffic flows.

386-4 Chapter 4, Sections 4.2.4.3, 4.3.4.3, and 4.4.4.3 of the *CMRR-NF SEIS* present a discussion of noise impacts associated with construction of the CMRR-NF. Potential noise and vibration from CMRR-NF-related construction traffic would occur predominantly during off-peak traffic times and is not planned to occur on weekends. Construction activity under all alternatives is not expected to generate noise offsite that would be considered excessively intrusive. There would be a small increase in noise levels from construction employees' vehicles and material shipments; however, this increase would be temporary and would not be considered adverse when compared to preexisting conditions.

Commentor No. 387: Rhonda M. Smith, Chief
Office of Planning and Coordination
U.S. Environmental Protection Agency, Region 6

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

June 28, 2011

John Tegtmeier
EIS Document Manager
Los Alamos, Site Office
National Nuclear Security
Administration (NNSA)
U.S. Department of Energy
3747 West Jemez Road
Los Alamos, NM 87544

Dear Mr. Tegtmeier:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) regulations for implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed its review of the Draft Supplemental Environmental Impact Statement (DSEIS) prepared by the National Nuclear Security Administration (NNSA), an agency within the United States Department of Energy (DOE), for the Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL) located at Los Alamos, New Mexico.

This DSEIS complements the environmental analysis contained within the Final EIS, and subsequent Record of Decision (ROD) published in February 2004, to replace the existing Chemistry and Metallurgy Research Building that was constructed in the early 1950's at the LANL. The replacement facility plan consists of constructing two new buildings. One of the buildings, the Radiological Laboratory/Utility/Office Building, has been constructed and is being outfitted with equipment and furniture. Enhanced safety requirements and updated information has prompted NNSA to re-evaluate the design concept of the second building to insure a more structurally sound design. The proposed Modified CMRR-Nuclear Facility (NF) portion design concept alternative will result in a more structurally sound building than that proposed in the earlier NEPA document. This building is being constructed on an existing and previously disturbed site within the existing LANL boundary. This modification has been addressed in this DSEIS.

EPA rates the Supplemental DEIS as "**EC-2**" i.e., EPA has "Environmental Concerns and Requests Additional Information in the Final Supplemental EIS (FSEIS)". Detailed comments are enclosed with this letter which more clearly identify our concerns and the informational needs requested for incorporation into the FSEIS.

EPA appreciates the opportunity to review the DSEIS. Please send our office two copies

Response side of this page intentionally left blank.

Commentor No. 387 (cont'd): Rhonda M. Smith, Chief Office of Planning and Coordination U.S. Environmental Protection Agency, Region 6

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of the FSEIS when it is sent to the Office of Federal Activities, EPA (Mail Code 2252A), Ariel Rios Federal Building, 1200 Pennsylvania Ave, N.W., Washington, D.C. 20004. Our classification will be published on the EPA website, www.epa.gov, according to our responsibility under Section 309 of the CAA to inform the public of our views on the proposed Federal action. If you have any questions or concerns, please contact Michael Jansky of my staff at jansky.michael@epa.gov or 214-665-7451 for assistance.

Sincerely yours,

Rhonda Smith

Rhonda M. Smith, Chief
Office of Planning and
Coordination

Enclosure

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Commentor No. 387 (cont'd): Rhonda M. Smith, Chief Office of Planning and Coordination U.S. Environmental Protection Agency, Region 6

Detailed Comments
for the
National Nuclear Security Administration (NNSA)
United States Department of Energy (DOE)
Draft Supplemental Environmental Impact Statement (DSEIS)
Nuclear Facility Portion of the Chemistry and Metallurgy Research Building Replacement (CMRR) Project
Los Alamos National Laboratory (LANL)
Los Alamos, New Mexico

The Draft Supplemental Environmental Impact Statement (DSEIS) for the National Nuclear Security Administration (NNSA) of the U.S. Department of Energy (DOE) was developed regarding the proposed construction of the nuclear facilities portion of the Chemistry and Metallurgy Research Building (CMR). The new facility will replace the outdated building that has been in use for 60 years, since it fails to meet current safety standards and building codes. The DSEIS makes clear that any impacts to the public resulting from the construction and operation (including potential accidents) of the CMR will be less than the potential dangers that exist by continuing to use the current facility.

Environmental Justice

The DSEIS analyzes impacts on populations within the 50-mile radius surrounding LANL as a whole, which includes eight counties and a population that is projected to be 545,000 by 2030. The demographic analysis should be more detailed in the interest of transparency and in order to present a more complete and accurate picture.

- The demographic data was limited to the average percentage of minority and low-income populations within the 50-mile radius of LANL, as well as the average percentages within the eight counties that comprise the 50-mile radius. The FSEIS should also provide a minority and low-income population analysis with a five, ten, and 20-mile radius. *387-1*
- It is obvious that those living closest to the facility will be more affected by normal operations or potential accidents at the facility than would those living farther away within the 50-mile radius.
- EPA guidance states, "Environmental effects are often realized in inverse proportion to the distance from the location or site of the proposed action (i.e., the closer the population is to the action, the greater the potential impacts). As a result, an effort should be made to correlate the demographic analysis to the area most likely to bear environmental effects." (*Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses, April 1998)* *387-2*
- The total minority population of the 50-mile radius is projected to be 57% by 2030, compared with the State's 65% minority rate; however, by focusing on this 50-mile radius, the DSEIS somewhat distorts the picture because of the percentages of minority *387-3*

387-1 Chapter 3, Section 3.10, of the *CMRR-NF SEIS* was revised to provide additional analyses for minority and low-income populations at 5-, 10-, and 20-mile (8-, 16-, and 32-kilometer) radial distances as requested by the commentor.

387-2 Tables were added to Chapter 3, Section 3.10, of the *Final CMRR-NF SEIS* that display the composition of the population in the region of influence at radial distances of 5, 10, and 20 miles (8, 16, and 32 kilometers) for use in analyzing impacts specific to populations in close proximity to LANL. Additional analysis of the potential radiological impacts on nearby populations is presented in Chapter 4, Sections 4.3.11 and 4.4.11. The impacts on an average individual of the total minority population, the total Hispanic or Latino population, the American Indian population, and the low-income population; as well as the nonminority and non-low-income populations have been reported at each of these radial distances.

387-3 As discussed in the response to Comment 387-2, tables were added to Chapter 3, Section 3.10, of the *Final CMRR-NF SEIS* that display the composition of the region of influence at radial distances of 5, 10, and 20 miles (8, 16, and 32 kilometers). These tables show that the populations closest to LANL, within the 5- and 10-mile radial distances are predominantly nonminority and non-low-income residents.

387-4 Comment noted. Chapter 3, Section 3.10, of the *Final CMRR-NF SEIS* was revised to reflect changes to the population projections based on additional data available from the 2010 census.

387-5 Chapter 3, Figure 3-9, showed only minority populations surrounding LANL out to 50 miles and included percentages on the right axis of the graph. Tables were added to Section 3.10 of the *Final CMRR-NF SEIS* to clearly indicate the percentages of minorities residing within 5, 10, and 20 miles (8, 16, and 32 kilometers) of LANL in addition to the 50-mile analysis included in the draft SEIS. The graph was revised to include the total population, total minority, Hispanic, and American Indian populations.

387-6 As discussed in the response to Comment 387-5, tables were added to Chapter 3, Section 3.10, of the *Final CMRR-NF SEIS* to clearly indicate the percentages of minorities residing within 5, 10, and 20 miles (8, 16, and 32 kilometers) of LANL in addition to the 50-mile analysis included in the draft SEIS. The graph was revised to include the total population in addition to the minority populations and percentages are included on the right axis of the graph.

Commentor No. 387 (cont'd): Rhonda M. Smith, Chief Office of Planning and Coordination U.S. Environmental Protection Agency, Region 6

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and low-income residents of many of the communities nearer LANL are higher than the averages of the 50-mile radius. **387-3 cont'd**

- Most of the population within the eight counties (74%) is concentrated in Sandoval and Santa Fe Counties, and they have 72% of the minority population of all the eight counties. Neither county, however exceeds the State's projected minority percentage of 65%, or the State's low-income percentage of 18.1%. **387-4**
- Figure 3-9, Minority Populations as a Function of Distance from Technical Area 3 and Technical Area 55 in 2030, depicts minorities and their distance from the facility. The graph is somewhat misleading because minorities are illustrated in an unclear manner and no percentages of minorities in those populations are shown. This could lead one to conclude that the percentage of minorities nearest the facility is low. The FSEIS should provide this information in a clear and concise manner accessible to the average person. **387-5**
- Figure 3-10, Minority Populations as a Function of Distance from Technical Area 55 in 2030, is also an effort to show minorities and proximity to the facility. It appears that at least 10,000 minority residents live within 15 miles of the facility, and those numbers rise precipitously after the10-mile point. No real data is provided about the minority residents living near LANL. However, outside of the towns of Los Alamos and White Rock, many residents are low-income Native Americans. The FSEIS should provide this information in a clear and concise manner accessible to the average person. **387-6**
- The FSEIS should provide a figure depicting the low-income status of residents and their distance from the facility. **387-7**

The health data provided was extensive, and included data from each of the eight potentially affected counties from 1999 to 2003 (after the Cerro Grande fire). The DSEIS states that cancer rates were lower than those of the U.S., and generally have been less than overall cancer rates of New Mexico. However, Los Alamos, Santa Fe, and Sandoval Counties did exceed the State's average of cancer rates.

- Los Alamos County, where LANL is located, exceeded the State's rates for melanoma, prostate cancer, female breast cancer, and thyroid cancer. Potential cancer risks should have been correlated with proximity of the residents to the facility, since risks to those who live greater than 50 miles of the facility will generally not be as high as the risks to those who live within a few miles of LANL. The FSEIS should provide this correlation. **387-8**

- Possible impacts to nearby Indian Tribes were not thoroughly examined. These individuals may already experience health problems (such as diabetes or high blood pressure) which would make them more susceptible to any radiological impacts. The FSEIS should provide a more detailed analysis of adverse impacts to Indians. **387-9**

The risk estimation data could have been presented in a manner more accessible to the general public. In describing the potential risk of developing one latent cancer fatality under various scenarios, the DSEIS did not consistently provide enough information. Frequently this **387-10**

387-7 Chapter 3, Figure 3-12, of the *Draft CMRR-NF SEIS* showed the number of low-income residents out to 50 miles (80 kilometers) from LANL. Tables were added to Section 3.10 in the *Final CMRR-NF SEIS* showing minority and low-income populations residing within 5, 10, and 20 miles (8, 16, and 32 kilometers) of LANL.

387-8 NNSA has researched these areas of concern and believes it would be inappropriate and not scientifically defensible to try to make the kind of correlation suggested by EPA. The data needed to correlate cancer rates with the proximity of the residents to LANL do not exist, so this cannot be done. Chapter 3, Section 3.11.4, of the *CMRR-NF SEIS* was revised to summarize the results of additional epidemiological studies performed for Los Alamos County and the State of New Mexico, and to clarify the results of an analysis performed for the *CMRR-NF SEIS* using data from the National Cancer Institute for the years 2003 through 2007. During that period, the overall cancer incidence and mortality rates for the state of New Mexico were below the national average, and the overall cancer mortality rate for Los Alamos County was less than that for the state. Total cancer incidence rates in Los Alamos, Santa Fe, and Sandoval Counties exceeded the state average, although the incidence rates in all four counties were below national averages. Although the current data indicate that Los Alamos County has higher cancer incidence rates than the state average for some cancers, including melanoma of the skin, prostate cancer, and female breast cancer, it also has lower cancer incidence rates for other cancers than the state or the Nation. As stated in Section 3.11.4, a study by the Agency for Toxic Substances and Disease Registry determined that there were no data to link environmental factors, other than naturally occurring ultraviolet light from the sun, with the observed incidence of any cancer in Los Alamos County and concluded that "Overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities. In some time periods, some cancers will occur more frequently and others less frequently than seen in reference populations. Often, the elevated rates are not statistically significant" (ATSDR 2006).

387-9 The activities associated with the alternatives evaluated in the *CMRR-NF SEIS* are expected to have very little impact on any members of the population, including members of minority groups. Additional comparison of radiological impacts on nearby populations was added to Chapter 4, Section 4.3.11, Environmental Justice, the *CMRR-NF SEIS*. The *CMRR-NF SEIS* follows the typical practice to evaluate dose to a representative receptor; the potential doses

Commentor No. 387 (cont'd): Rhonda M. Smith, Chief Office of Planning and Coordination U.S. Environmental Protection Agency, Region 6

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information was well presented, as in this example, "... the estimated probability of this maximally exposed person developing a latent fatal cancer from radiation exposure associated with 1 year of LANL operations is about *1 in 3 million.*" Often, however, this risk estimation information was presented with mathematical formulas in a manner that the average person would not understand. The FSEIS should provide data and use language that is accessible to the average person. 387-10 cont'd

Tribal Concerns

The proposed project has the potential to affect several Indian Pueblos, including but not limited to effects on their governmental interests (such as emergency response to spills), natural resources (such as downstream pollution of streams and lakes from stormwater runoff, spills or transportation accidents) and their citizens. A significant amount of Indian country is located in the vicinity of LANL, and the San Ildefonso Pueblo borders LANL. The Pojoaque, Cochiti and Santa Clara Pueblos, Ohkay Owingeh Pueblo, Tesuque Pueblo, Jemez Pueblo, etc. are less than 30 miles away.

- The DSEIS does not adequately address potential effects upon Indian tribes, perhaps because the projected percentage of Native Americans within the 50-mile radius is 10%, while the percentage of Native Americans within all of New Mexico is 16%, but within certain areas, their percentages are high. The FSEIS should provide a more detailed analysis of adverse impacts to Native Americans. 387-11
- The FSEIS should provide more detailed maps depicting all tribal areas within the 50-mile radius. 387-12
- As detailed above, the proximity of many of the tribes to LANL and proposed transportation routes results in potentially significant adverse effects to Native Americans and tribal communities. As a federal agency, the DOE has a duty to consult with recognized Tribes whenever its actions may potentially impact those Tribes or tribal interests. 387-13
- The DOE should take immediate steps to initiate consultation with each of the potentially affected tribal governments on issues that may concern them, including but not limited to transportation, waste disposal, potential to pollute tribal waters, need for emergency response readiness, and other topics identified by the Tribes. As appropriate, the FSEIS should address topics of concern to tribes and these consultations should be documented.
- Special public outreach efforts should be undertaken to ensure that tribal members understand the proposed project and its implications. 387-14

The DSEIS states that the NNSA does arrange site visits with tribal representatives to solicit their concerns when a project is proposed. Normal procedures will be followed under the National Historic Preservation Act (NHPA), and the following tribes have been notified about the project and have been urged to comment on any concerns they may have:

from routine operations associated with the actions proposed in the *CMRR-NF SEIS* are shown to be very low such that additional analyses are not warranted. The *CMRR-NF SEIS* has added a reference to the analysis in the 2008 *LANL SWEIS* of the potential impacts on a subsistence consumer from LANL as a site and the impact of the proposed CMRR-NF on a subsistence consumer has been included in Chapter 4, Section 4.3.11, of the *Final CMRR-NF SEIS*. Note that the contributions of the facilities evaluated in the *CMRR-NF SEIS* would be very small contributions to the total dose. It should also be noted that detailed local tribal health information is not readily available to answer epidemiologic questions for nearby tribes.

387-10 NNSA agrees that the information should be easily understood by the average person. Thus, Chapter 4, Section 4.3.11, and Appendix B of the *CMRR-NF SEIS* were reviewed and the text revised to ensure that all of this risk estimation information is expressed in a manner that the average person can understand.

387-11 Appendix B, Section B.10, of the *CMRR-NF SEIS* has been revised to elaborate on the methodology used to project populations to the year 2030. The projected Native American population referred to by the commentor is a reflection of the low growth rates of the Native American population in this area. In comparison, the trends of other populations in the area, such as the Hispanic or Latino population, are projected to grow much faster than the Native American population. The activities associated with the alternatives evaluated in the *CMRR-NF SEIS* are expected to have very little impact on any members of the population, including Native Americans. Tables have been added to Chapter 3, Section 3.10, of the *CMRR-NF SEIS* to provide more information related to the percentage of Native Americans (and other populations) projected to be living within 5, 10, and 20 miles (8, 16, and 32 miles) of LANL in addition to the 50-mile analysis included in the draft SEIS. The impacts on Native Americans are not expected to be any different than the impacts on nonminority individuals and none of the impacts from normal operations of the proposed facility are expected to adversely affect minority or nonminority populations as discussed in the analyses presented in Chapter 4 of the final SEIS.

387-12 NNSA agrees. A figure has been added to Chapter 3, Section 3.10, of the *Final CMRR-NF SEIS* showing Pueblo and tribal areas within a 50-mile (80-kilometer) radius of LANL.

Commentor No. 387 (cont'd): Rhonda M. Smith, Chief Office of Planning and Coordination U.S. Environmental Protection Agency, Region 6

4

- Eight Northern Indian Pueblos Council,
- Mescalero Apache Tribe,
- Pueblo of Acoma,
- San Ildefonso Pueblo,
- Pojoaque Pueblo,
- Cochiti Pueblo,
- Santa Clara Pueblo, and
- Jemez Pueblo

However, the requirement to consult under the NHPA is separate and different from the broader duty to consult government-to-government that arises when federal agency actions may affect tribal interests. DOE should pursue consultation in a manner consistent with the Presidential Memo dated November 5, 2009, which states: "…The United States has a unique legal and political relationship with Indian tribal governments, established through and confirmed by the Constitution of the United States, treaties, statutes, executive orders, and judicial decisions. In recognition of that special relationship, pursuant to Executive Order 13175 of November 6, 2000, executive departments and agencies (agencies) are charged with engaging in regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications, and are responsible for strengthening the government-to-government relationship between the United States and Indian tribes."

387-14 cont'd

387-13 As previously indicated, analyses presented in Chapter 4 of the SEIS demonstrate that impacts from routine operations of the proposed CMRR-NF are not expected to adversely affect either minority or nonminority populations. Chapter 4, Section 4.3.13.1, Table 4-37, presents the annual risk from transportation or radioactive materials by route segment, for the Modified CMRR-NF Alternative. As indicated in this table, the risks from transportation are very low along the entire route, including the LANL-to-Pojoaque segment that traverses San Ildefonso tribal lands.

387-14 NNSA has undertaken public outreach efforts to ensure that tribal members understand the project and its implications. NNSA meets frequently with governors and others representing the Pueblos and tribes near LANL. In addition, DOE visited the San Ildefonso Pueblo during the public comment period to discuss the *Draft CMRR-NF SEIS*.

Chapter 5, Section 5.7, of the *CMRR-NF SEIS* has been revised to more fully explain the interactions between NNSA and the neighboring pueblos. There is a LANL Cultural Resources Management Plan (LANL 2006b) that guides the interactions with potentially affected pueblos and tribes with respect to the requirements of the National Historic Preservation Act.

Commentor No. 388: Pax Christi-Phoenix

Pax Christi-Phoenix

June 15, 2011

Mr. John Tegtmeir
U. S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

We, the members of Pax Christi-Phoenix, are concerned about the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico.

It is our understanding that the CMRR was designed to replace the existing Chemistry and Metallurgy Research Building and serve as the site where they would manufacture "Plutonium Pits", the fissile "triggers" capable of nuclear capability that initiate the destruction of modern thermonuclear weapons. The Lab already has the ability to produce 20 pits a year at the CMR building, but if they move ahead and build the new CMRR, they will have the ability to produce 80+ a year.

The original cost of the project was $400-550 million with the completion date this year. The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and lists a completion date of FY 2023 - this is more than ten times the original forecast. Who knows what the final cost would be if they are given the green light on this unneeded and dangerous project? *388-1*

The worst part is that the proposed site for the new CMRR building is only 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007, showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened seismic hazards. The costs of *388-2*

388-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF, concerns regarding the cost of constructing the CMRR-NF, and position regarding plutonium pit production levels. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

388-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic

Commentor No. 388 (cont'd): Pax Christi-Phoenix

adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great.

With this in mind, it appears we could be looking at our own nuclear disaster much worse than Fukushima or Chernobyl. Supposedly, the new CMRR building will be able to withstand an earthquake of 7 on the Richter scale, but Japan has already had an aftershock from their recent earthquake measuring 7.1.

388-2 cont'd

In addition, none of this takes into account whether the nuclear weapons work presently done at LANL and our other nuclear weapons facilities violates the Nuclear Non-Proliferation Treaty.

388-3

We the members of Pax Christi-Phoenix advocate that the CMRR project be canceled and that a new study of LANL's plutonium infrastructure be undertaken which will include existing and future capability needs, and provide a realistic cost for maintaining and upgrading safety features at the existing CMR.

388-4

We look forward to your response.

Peace and Much Good,

Dan Petzmeyer
Ruth C. Zemek
Daniel Wazgowa
Suye Carey
Betty Bitham
John
Margaret Wolfaa
Tom Donovan
Jean Ajamie
Margaret McChesney

hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA acknowledges the commentor's concern that accidents similar to those that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant and in 1986 at Chernobyl could happen at LANL. There are fundamental differences between the functioning of nuclear reactors and activities at LANL. The types of radiological accidents that occurred at the Fukushima Daiichi Nuclear Power Plant and Chernobyl require a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

388-3 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

388-4 NNSA has already undertaken a more extensive evaluation than the requested evaluation of LANL's plutonium infrastructure. In 2008, NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b). NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility

Commentor No. 388 (cont'd): Pax Christi-Phoenix

at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely.

Commentor No. 389: John W. Zemblidge

John W. Zemblidge
2722 East Purdue Avenue
Phoenix, Arizona 85028-4720

June 15, 2011

Mr. John Tegtmeir
U. S. DOE/NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, New Mexico 87544

Dear Mr. Tegtmeir,

I am writing about the proposed Chemistry and Metallurgy Research Replacement (CMRR) Project in Los Alamos, New Mexico.

It is my understanding that the CMRR was designed to replace the existing Chemistry and Metallurgy Research Building and serve as the site where they would manufacture "Plutonium Pits", the fissile "triggers" capable of nuclear capability that initiate the destruction of modern thermonuclear weapons. The Lab already has the ability to produce 20 pits a year at the CMR building, but if they move ahead and build the new CMRR, they will have the ability to produce 80+ a year.

The original cost of the project was $400-550 million with the completion date this year. The "Details of Project Cost Estimate" table in the FY2012 budget puts CMRR's current projected cost at $5.86 billion and lists a completion date of FY 2023 - this is more than ten times the original forecast. Who knows what the final cost would be if they are given the green light on this unneeded and dangerous project?

389-1

The worst part is that the proposed site for the new CMRR building is only 2/3rds of a mile from a geologic fault line. The Los Alamos National Laboratory (LANL) is located in a seismic fault zone between a rift valley and a dormant volcano. An updated seismic hazards analysis from May 2007, showed a potential huge increase in seismic ground motion and activity. In all likelihood, most of the more than $3 billion added to cost estimates since 2008 result from efforts to address the heightened

389-2

389-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF, concerns regarding the cost of constructing the CMRR-NF, and position regarding plutonium pit production levels. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

389-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic

Commentor No. 389 (cont'd): John W. Zemblidge

seismic hazards. The costs of adding this enormous new facility to LANL's weapons manufacturing complex in a geologically unstable area are just too great.

With this in mind, it appears we could be looking at our own nuclear disaster much worse than Fukushima or Chernobyl. Supposedly, the new CMRR building will be able to withstand an earthquake of 7 on the Richter scale, but Japan has already had an aftershock from their recent earthquake measuring 7.1. **389-2 cont'd**

In addition, none of this takes into account whether the nuclear weapons work presently done at LANL and our other nuclear weapons facilities violates the Nuclear Non-Proliferation Treaty. **389-3**

Mr. Tegtmeir, I feel it is imperative that the CMRR project be cancelled and that a new study of LANL's plutonium infrastructure be undertaken which will include existing and future capability needs, and provide a realistic cost for maintaining and upgrading safety features at the existing CMR. **389-4**

I look forward to your response.

Peace and Much Good,

John W. Zemblidge
2722 East Purdue Avenue
Phoenix, AZ 85028-4720

hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA acknowledges the commentor's concern that accidents similar to those that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant and in 1986 at Chernobyl could happen at LANL. There are fundamental differences between the functioning of nuclear reactors and activities at LANL. The types of radiological accidents that occurred at the Fukushima Daiichi Nuclear Power Plant and Chernobyl require a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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389-4 NNSA has already undertaken a more extensive evaluation than the requested evaluation of LANL's plutonium infrastructure. In 2008, NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b). NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19,

Commentor No. 389 (cont'd): John W. Zemblidge

2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely.

Commentor No. 390: Anonymous

June 25, 2011

Hello,

I'd like to leave a comment about the Metallurgy lab at Los Alamos. I am a concerned citizen, a long-time northern New Mexico resident, and I am definitely encouraging you to not build this facility. Okay?

It's time for us to move in a different direction in this country and on this planet. Six billion dollars is a lot of money and we could apply that money and help ourselves with renewable energy and not moving in a way of weapons and weapons research and plutonium pit manufacturing. Alright?

So it's time guys. Let's move our energy and our funds in a different direction. Please do not continue to poison the earth and its residence with plutonium pit factories that are unnecessary.

Thank you so much. Have a great day.

Anonymous

390-1

390-1: NNSA notes the commentor's opposition to construction and operation of a new CMRR Facility at LANL. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 391: Ellen Amba Caldwell and David Caldwell

From: E. Amba Caldwell [eacald1@gmail.com]
Sent: Wednesday, July 06, 2011 8:50 PM
To: NEPALASO@doeal.gov
Subject: CMRR Nuclear Facility

I wholeheartedly OPPOSE the building of the CMRR Nuclear Facility in New Mexico or anywhere. This complex will quadruple LANL's plutonium production from 20 pits per year to 80 pits per year. All of this will be used in making bombs to blow up places, people and animals, if such opportunities do arise. WE are supposed to be decreasing our nuclear supply of weapons, not increasing it. *391-1*

In a 2007 site–wide seismic report LANL issued a warning that there was not enough information on the seismic properties of the reference rock. There is not enough information to determine seismic safety of the old buildings and the new proposed facility.

The April 2011 LANL released a memo that describes why the soft option is not safe to prevent the proposed building from collapse into the underlying layer: compression of the layer of soft volcanic ash by the heavy building; seismic shaking from an earthquake; and liquefaction of the volcanic ash because of water leaks. Scott also talked about the deep alternative that would involve digging out the entire soft layer and then pour concrete and build on top of that but it is a much more expensive option. "The government has not done enough seismic analysis, they do not know if there is no fault line at the proposed site. They're designing it with an earthquake of maximum 7 Richter scale. They do not know what would happen if an earthquake of larger magnitude hits. They need to do more research and find all the faults". *391-2*

I am in agreement with this and think it should not be built and jeopordise us further.

On December 13, 2010 online issue of the Proceedings of the National Academy of Sciences, the University of Arizona scientists published a major study that concludes that the American West maybe entering a prolonged 60–year drought. The CMRR project would require approximately 16 million gallons of water each year for its operation. Let's not waste our precious water for this. *391-3*

Sincerely, Ellen AMba Caldwell

David Caldwell

391-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

391-2 There is no "soft option" under consideration by NNSA for construction of the CMRR-NF. The cost difference between the two options that are considered in the SEIS is one of the factors that NNSA will consider in making its decision on the project. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMFF-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

391-3 Based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Commentor No. 392: Emmy Koponen

From: Emmy Koponen [emmykoponen@gmail.com]
Sent: Wednesday, July 06, 2011 7:21 PM
To: NEPALASO@doeal.gov
Subject: Fire!

Although the cmrr comment period is over, since I did not have email and live 29 air miles from Los alamos and breathed the smoke for one week on Dixon nm I emplore you to not go ahead with the building and to please clean up what does exist! Most sincerely, Emmy Koponen. Pobox456, dixon, nm 87527 *392-1*

Sent from my iPod

392-1 NNSA notes the commentor's opposition to the construction of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMRR Mission, of this CRD for more information.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Commentor No. 393: John Storbeck

From: Rusty Storbeck [rustys@cybermesa.com]
Sent: Wednesday, July 06, 2011 3:25 PM
To: NEPALASO@doeal.gov

I sincerely hope that the Las Conchas fire has caused DOE to re-think making Los Alamos the new center of plutonium pit production. We dodged a bullet this time, but we may not be able to next time. Mother Nature has a way of showing us that She is much more powerful than any design-basis plan humans come up with. *393-1*

Climate change is real. The drought this part of the country is in, is real. *393-2*

John Storbeck
Santa Fe

393-1 NNSA notes the commentor's concerns regarding the possible impact of wildfires and climate change. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

393-2 NNSA acknowledges the commentor's concerns that climate change may increase the frequency of wildfires and decrease the availability of water. In response to public comments, Chapter 3, Section 3.4.4, of the *Final CMRR-NF SEIS* has been revised to include a description of the types of environmental changes that could occur in the southwestern United States due to climate change. A discussion of potential impacts that could result at LANL from climate change and that addresses water usage has been added to Chapter 4, Section 4.1.

As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. LANL approaches sustainability on a site-wide basis, knowing that new facilities will require the use of limited resources. New projects such as the proposed CMRR-NF are constructed in a manner that improve the efficiency of energy and water use site wide. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Commentor No. 394: Judith A. Kaiper

From: Kaiper, Judith A. [jkaiper@cabq.gov]
Sent: Wednesday, July 06, 2011 4:39 PM
To: NEPALASO@doeal.gov
Subject: No more Plutonium Pit Construction at LANL

I am opposed to the potential for further nuclear contamination of sacred Santa Clara lands and our precious earth. *394-1*

Judith A. Kaiper
1801 Gibson Blvd SE Apt 2055
Albuquerque, NM 87106

394-1 NNSA notes the commentor's opposition to further contamination of sacred Santa Clara lands and the earth. As shown in Chapter 4 of the CMRR-NF SEIS, the proposed construction and operation of the CMRR-NF would result in small environmental impacts.

Commentor No. 395: Mary Smith

From: Mary Smith [smithmarym@yahoo.com]
Sent: Monday, July 11, 2011 4:49 PM
To: nepalaso@doeal.gov
Subject: Urgent that you reconsider!

I understand that you are considering building near a geologic fault line. I am asking that you reconsider and do NOT build there. The costs of adding this enormous new facility to LANL's weapon manufacturing complex in a geologically unstable area are just too great. Please cancel this project immediately. Thank you. *395-1*

Mary Smith, 3512 Michigan Ave, Elmira NY 14903-1107

395-1 NNSA notes the commentor's opposition to construction and operation of the CMRR-NF regarding cost. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Commentor No. 396: Sheila A. Cooper

SHEILA A. COOPER
P.O. BOX 312
ALCALDE, NEW MEXICO 87511

July 8, 2011

Mr. John Tegtmeier, CMRR-NF-SEIS Document Manager
Los Alamos National Laboratory
Los Alamos, New Mexico

Dear Mr. Tegtmeier:

I respectfully submit the following comments regarding the CMRR SEIS. I acknowledge and apologize for any inconvenience caused by the fact that my comments are submitted past the posted time deadline. I am asking for consideration due to complications regarding the Las Conchas fire.

I am a concerned citizen and have lived downwind of LANL in the traditional community of La Villita for 20 years. I am a former state of New Mexico Statistical Research Director, a former military officer and was a departmental representative on New Mexico Governor Jerry Apodaca's Cabinet Taskforce on the Waste Isolation Pilot Project (WIPP) in addition to being a lifelong New Mexican.

I am writing to express concerns regarding the adequacy and accuracy of the SEIS in particular the risk assessment analysis contained in Chapter 3 AFFECTED ENVIRONMENT and Chapter 4 ENVIRONMENTAL EFFECTS. My concerns are both general and specific in nature.

GENERAL CONCERNS

I am generally concerned with the assumptions and methodological parameters underlying the statistical analysis. For example, the analysis of health and radiation risks consider a one time exposure risk only using an average annual individual dose based on past release and exposure data. There is no analysis of cumulative effect or magnitude of potential exposure in relation to risk. The current analysis appears to consider only normal operating exposure risk with no consideration of accidental release exposure. Additionally, examining health effects within a 50 mile radius implicitly assumes equal risk at any time for every individual anywhere within that area without considering or controlling for the issues of greater risk at greater proximity, differing prevailing weather conditions, geophysical conditions, extreme weather conditions, or other extreme events such as earthquake or wildfire. It also implicitly assumes that an individual or individuals 1 foot further than the 50 mile radius never have any risk. While these assumptions simplify the analysis, they reduce the validity and reliability that results. *396-1*

396-1 The techniques, assumptions, methods, and parameters used for the human health analysis are the standard practices of the safety professionals of the industry. They have undergone detailed review both within the community and by independent groups, including the DNFSB and the NRC. The general modeling and analysis assumptions used for both the radiological impacts of normal emissions from the CMRR, which are extremely small, and for very severe accidents including earthquakes so severe that the building fails, are also typical parameters used in EISs or SEISs, and safety analyses around the country for both the DOE and the NRC.

Radiological releases from the facilities with any of the alternatives are extremely small and controlled. Releases of plutonium would be through filters and managed such that the releases are very small. As reported in the EIS, the estimated dose to the maximally exposed offsite individual is a very small percentage (less than 0.1 percent) of natural background radiation. The population as a whole receives much smaller doses. Since the releases are so low, the corresponding exposures are very low and largely insensitive to modeling assumptions. With releases this small, the use of more elaborate modeling techniques, even if they were available, would still calculate very small impacts and would not add additional insight regarding risk.

Appendix C of the *CMRR-NF SEIS* details the accident analysis that was performed for this SEIS. Using sophisticated models, severe accidents such as earthquakes and fires were analyzed using site specific meteorology and population distributions. The population information is based on the latest 2010 census data and includes detailed data on residents throughout a 50-mile (80-kilometer) radius around LANL. This information includes detailed information on minority and low-income populations residing within this region of influence. Where these populations reside is included in the modeling, so, the SEIS is able to project whether these populations would be subjected to disproportionate adverse risks.

Commentor No. 396 (cont'd): Sheila A. Cooper

Portions of 7 counties are included within the 50 mile radius area of analysis used for some variables. Los Alamos County is included in its entirety. Most population, demographic, economic and health data are aggregated and available for analysis with the county as the unit of analysis. The exception is in case of major metropolitan areas, none of which is entirely within the 50 mile radius. In rural or frontier counties these data, especially health statistics, are frequently only collected by county. To use these data to analyze effects on small portions of rural counties or a small portion of a major metropolitan area requires much extrapolation of data, which significantly increases the likelihood of error. Additionally more extrapolation leads to less confidence in the data. I find no figures establishing the range of confidence in the risk assessments reported within the SEIS. Further, racial, ethnic, and low income, underprivileged populations tend to aggregate in specific localized neighborhoods rather than distribute normally across an entire geographic area making extrapolation of countywide distributions even more specious. **396-1 cont'd**

The analysis of potential radiological effects uses the Genii Version 1 and Version 2 computer models. In 2001, the EPA Science Advisory Board reviewed GENII Version 2. The 10 member Science Advisory Board included a representative from LANL and another from the Lovelace Respiratory Research Institute in Albuquerque. The board raised a number of issues about the utility, validity and reliability of this model, including the fact that it had never been tested. Perhaps the most significant criticism of GENII v2 in relation to CMMR is that the dispersion modeling it produces are limited to open, flat terrain, a condition which most definitely does not describe Los Alamos. I find no evidence that the issues raised by the board have ever been addressed or corrected. **396-2**

SPECIFIC CONCERNS

CHAPTER 3 AFFECTED ENVIRONMENT

Population Estimates
The Los Alamos County website states "about 190,000 people live within 40 miles of Los Alamos". The analysis within the SEIS uses a 50 mile radius and reports the estimated population at risk in 2009 was 332,272. The difference in these figures suggests, at a minimum, that approximately 42% of the analyzed population at risk is located at the farthest distance from any exposure. Expanding the area of the population at risk has the effect of minimizing total exposure risk and significantly minimizing risk to those in closest proximity.

FIGURE 3-8 This figure appears to project a population at risk within the Santa Fe County ROI in excess of 200,000 in 2030. The actual 2010 population of all of Santa Fe County according to the US Census Bureau is 144,170. A 38.7% increase over 20 years or 19.35% per decade would be required to attain the projected population in all of Santa Fe County in 2030. However, the population increase from 2000 to 2010 was 11.5%. Thus, the population projection for the Santa Fe County ROI seems excessively optimistic and has the effect of underestimating individual risk. No explanation of the **396-3**

396-2 The impacts from normal operations are evaluated in the SEIS using the industry standard code developed by the EPA for just these purposes, the code GENII. This code is routinely used by the EPA for confirmation that releases from nuclear facilities meet the requirements of the Clean Air Act. The code is also used by the DOE and NRC for estimation of the potential doses to individuals and the general population from controlled, normal releases from nuclear facilities. Many reviews of this code have occurred over its several decades of continuous use and refinement. These reviews have found that the code provides conservative results, i.e., it overestimates the potential consequences.

The model allows consideration of both the distance and direction to target individuals and populations and makes use of site-specific meteorology. The model accommodates scenarios involving chronic releases to air from ground level and/or elevated sources. Exposure pathways include direct exposure from surface sources (soil) and air (semi-infinite cloud and finite cloud geometries) as well as inhalation and ingestion.

The GENII code was developed over a period of several years; the development incorporated several rounds of review of all portions of the code. As mentioned by the commentor, the EPA Science Advisory Board was asked in 2001 to review an early "beta test" version of Version 2 of the code and its initial draft users' manual. The suggestions of the EPA Science Advisory Board were incorporated in the ongoing development of the code. With regard to the concern expressed by the commentor that the model is limited with regard to modeling terrain such as that surrounding LANL, this may be correct but the results of the modeling for the proposed CMRR-NF are extremely low as discussed in the response to comment 396-1; are considered to be conservative; and provide NNSA with a reasonable basis upon which to compare the alternatives under consideration.

396-3 The population of the area within 50 miles (80 kilometers) of LANL provided in the *Draft CMRR-NF SEIS*, about 332,000, was based on census data collected from 2005 through 2009. The commentor compares this estimate to a Los Alamos County estimate of 190,000 within 40 miles (63 kilometers) of Los Alamos. This difference could be tied to the fact that most of Albuquerque is more than 40 miles (63 kilometers from Los Alamos and Albuquerque is the largest city in New Mexico. The standard 50 miles (80 kilometers) region of influence used to estimate potential human health impacts from radioactive releases in the *Draft CMRR-NF SEIS*, has been modified in the *Final CMRR-NF SEIS*. Additional radial distances of 5, 10, and 20 miles (8, 16, and 32

Commentor No. 396 (cont'd): Sheila A. Cooper

projection method is given. However it is likely that all population projections within the SEIS are similarly inflated. **396-3 cont'd**

A risk estimator of 1 latent cancer fatality per 1,667 person-rem dose is used to calculate the risk for exposure to 1 year of CMMR operations. This is essentially a one time risk exposure analysis. There is no analysis of cumulative effect over multiple years or decades. Cumulative effect is significant and needs to be considered because many Los Alamos residents live their entire working career in Los Alamos. Further, a majority of residents in significantly impacted downwind communities are multi-generational families with tenure longer than LANL has existed. Many of these family members live their entire lives with continual exposure. **396-4**

3.11.44 HEALTH EFFECTS STUDIES

This section reports National Cancer Institute Five Year Incidence and Mortality figures. It also quotes a study by the Agency for Toxic Substance and Disease Registry which concludes "overall cancer rates in the Los Alamos area are similar to cancer rates in other communities" without specifying how this conclusion was reached, what data was studied or how it was analyzed. TABLE 3-17 shows the five year rate of cancers for the country, state and 4 counties. However, the risk assessment purports to address risk in Los Alamos County and portions of 7 other counties. Failure to maintain consistency in the area studied throughout all risk assessment analysis is a questionable practice and raises issues of credibility.

Additionally, the data cited report all cases. Age related differences are not addressed. This is a significant omission and another way of excluding cumulative effect. As an example, National Cancer Institute 5 Year Cancer Incidence and Mortality data from 2003-2007 for Non-Hodgkins Lymphoma for Los Alamos County occurred at a rate somewhat higher than the national and state rate. However, if the rate for both sexes over 65 years of age, presumably after prolonged exposure, is studied, the national rate is 87.8/100,000; the New Mexico rate is 77.3/100,000 and the Los Alamos County rate is 141.3/100,000, nearly double the state rate. The rate in Los Alamos County for both sexes over age 50 is also significantly higher than either the National or State rates. This pattern also exists for other types of cancer. At a minimum, these data indicate the need for cumulative exposure analysis, not merely one time or average annual exposure calculations, to adequately and accurately assess risk. **396-5**

Chapter 4 Environmental Consequences

Table 4-28 Annual Collective Dose to Population within 50 mile radius of Radiological emissions during normal operations. These doses were calculated using GENII version 1 in the EIS. In the SEIS revised population figures and GENII version 2 were used to produce the dosage data. As the EPA Scientific Advisory Board determined in 2001, the revised GENII Version 2 is a simplistic computer model and its application to the geophysical environment of the Los Alamos area is especially questionable. Among the comments and recommendations of the Scientific Advisory Board are the following: **396-2 cont'd**

kilometers) were analyzed to estimate the potential impacts to residents in close proximity to LANL (see Chapter 3, Section 3.10).

Language has been added to section B.10 to elaborate on the methodology used to develop the population projections in this SEIS. Many of the subpopulations in the area surrounding LANL have a tendency to experience widely different growth rates. To avoid under- or over-counting populations, separate projections were made for individual subpopulations within each county of the potentially affected region that reflect the trends of that population specific to that area. The projections were made using data from the US Census Bureau's 1990, 2000, and 2010 Decennial Census. The projections used in the *Draft CMRR-NF SEIS* relied upon data from the 2005-2009 American Community Survey 5-Year Estimates because data from the 2010 census was unavailable at that time. A linear extrapolation was made using the preexisting census data to estimate populations at future points in time. The commentor is correct in the assertion that Santa Fe County experienced an 11.5 percent increase between 2000 and 2010; however, that county has also experienced a 45.7 percent increase between 1990 and 2010. The 20-year trend provides a more appropriate timeframe for comparison to a 20-year projection than can be established by a 10-year period.

Regarding the calculation of individual radiological risk, the increase in the estimated population included in the *CMRR-NF SEIS* results in a higher population dose and does not result in a lower individual risk. The estimated radiological releases were modeled for the entire population based on where they reside within the region of influence. In general, the higher the population, the higher the population dose with the closest residents to the site receiving a higher percentage of the dose. The average individual risk is calculated by dividing the total population dose by the total population. The average individual dose would not change if the total population was lower as suggested by the commentor because such a change in total population would result in a lower population dose assuming the population distribution remained the same. The results of this modeling for the various radial distances from LANL, included in the *Final CMRR-NF SEIS*, are shown in Chapter 4, Section 4.3.11.

396-4 The risk estimator used in the SEIS is based on the risk estimator set by the Interagency Steering Committee on Radiation Standards in 2002. This risk estimator reflects the lifetime dose from all pathways that an exposed individual and the population as a whole might receive from a year's worth of radiological releases from the CMRR-NF or the CMR Building. The commentor is correct

Commentor No. 396 (cont'd): Sheila A. Cooper

1. "More up to date algorithms are found in other computer models, especially those developed by the American Meteorological Society."

2. "It should be noted that in GENII v2 current dispersion modeling capabilities are limited to open, flat terrain."

3. "The straight line Gaussian and Langragian puff models were designed for "well-behaved" pollution transport from chimney stacks and do not apply to more critical scenarios involving fires, explosions and accidental or terrorist aerial releases of contaminants.... Under such conditions, the physics and chemistry of the problem require the use of more sophisticated, physically based models."

4. " The number of particle sized classes allowed in the system needs to be expanded as particle size is a very important parameter in governing deposition patterns during transport as well as deposition in the human respiratory tract. The sites of deposition in the respiratory tract in turn influence both the subsequent deposition of the inhaled material in the body and the doses received by the various body organs and tissues. Atmospheric transfer modeling in GENII v2 only accommodates 1 particle size."

5. "Failure to capture proper physical reality in risk assessment and policy management will be increasingly serious."

6. "In order to properly assess risk of radiological contamination and releases a site specific model is preferred"

7. "All the simplifying assumptions used in GENIIv2 may be justifiable for use in a screening tool that is not intended for detailed site specific analysis."

8. "Recommended Changes to GENII v2:

a. In all cases, recommended parameterized models should be tested thorough verification, calibration and if possible validation of some or all of its components.

b. A major deficiency in GENIIv2 appears to be in the water transport model. GENII v2 DOES NOT have a groundwater transport model.

c. The terrestrial transport model is also very simple.

d. GENIIv2 may also be inadequate in terms of the air transport model. Further development of near field and far field analysis is needed.

e. GENIIv2 does not incorporate meteorological data to allow for wind field analysis."

396-2 cont'd

CONCLUSIONS"

The CMRR SEIS , especially Chapters 3 and 4, is inadequate to properly assess potential risk. The population projections used to determine potential population at risk are overly optimistic. The ROI is not consistent throughout all variables. The health effects studies

that these estimates represent annual risks from the projected radiological releases. However, these risks are still a very small fraction of the annual risk associated with natural background radiation for individuals living near LANL. For example, as discussed in Chapter 4, Section 4.3.10.1, the projected dose to the average individual from Modified CMRR-NF operations would be less than 1/1000 of a percent of natural background radiation, annually.

396-5 The purpose of Table 3-19 in Chapter 3 of the *CMRR-NF SEIS* was not to provide a detailed comparison of all 22 cancers listed in the National Cancer Institute data base across any given number of counties across New Mexico or the United States. The intent, rather, was to provide a snapshot of the rates for representative cancers for the United States, the State of New Mexico, and Los Alamos and its three surrounding counties. The data that is presented indicates, for example, that cancer rates for prostate, thyroid and female breast cancers in Los Alamos County, are larger than average rates for the United States and New Mexico, but cancer rates for lung and bronchus, colon and rectum, stomach, and some other cancers are smaller than average rates for the United States and New Mexico. If the table was expanded to include additional New Mexico counties such as Bernalillo, Taos, and Mora Counties, NNSA expects the comparative cancer rates among the counties would again be variable: for some cancers the cancer rates would be larger than those seen in Los Alamos County and for other cancers the rates would be smaller.

The expansion of the table to consider age-related effects would not provide additional information that would assist NNSA in making a decision about constructing and operating the CMRR-NF. The National Cancer Institute data provides no information about the myriad of factors that may influence cancer incidence. It may be noted, however, that similar to that illustrated in Table 3-19 for persons across all ages and sexes, a review of National Cancer Institute data for the same 5 years and types of cancers addressed in Table 3-19 for all persons aged 65 years and older indicates wide comparative variations in cancer rates (see http://statecancerprofiles.cancer.gov/index.html). For example, the incidence rates for all cancers and both sexes is smaller for Los Alamos County than for Sandoval County and the United States average rate, but larger than the New Mexico average rate. The average cancer rates for Los Alamos County are larger than United States average rates for breast cancer, non-hodgkins lymphoma, and prostate cancer, but smaller than United States average rates for cancer of the brain and other nervous system, lung and bronchus, colon and rectum, stomach, leukemia, melanoma of the skin, ovary, and thyroid.

Commentor No. 396 (cont'd): Sheila A. Cooper

are superficial and do not include cumulative effects of contamination. The release data only consider past releases during normal operations and do not include potential accidental releases during extreme events. Some of the computer models used for analysis have not been tested and have been found to be simplistic, incomplete, invalid and unreliable for conditions at LANL. These models cannot perform a site specific analysis.

For these reasons, I strongly oppose the proposed expansion of CMRR until a comprehensive EIS is performed using site-specific computer models and analysis that conforms to rigorous research standards. ***396-1 cont'd***

I appreciate your consideration of these comments.

Sincerely,

SHEILA A. COOPER

The complete citation for the cited Agency for Toxic Substance and Disease Registry reference (ATSDR 2006) can be found in Chapter 7 of the *CMRR-NF SEIS* and at http://nnsa.energy.gov/nepa/cmrrseis.

Commentor No. 397: CK

Submit Questions or Comments about the Draft CMRR–NF SEIS to:

Mr. John Tegtmeier, CMRR–NF SEIS Document Manager, NNSA Los Alamos Site Office,
3747 West Jemez Road, TA–3 Building 1410, Los Alamos, New Mexico, 87544
or fax: (505) 667–5948); or e-mail : **NEPALASO@doeal.gov**.

397-1

Right now the absolute global disaster at Fukushima shows the folly of pursuing any thing nuclear. Especially weapons. Obviously the New Mexican community is opposed to this madness. Yes madness. The United States does not need more nuclear weapons. Our infrastructure is crumbling and you want to spend money on more & more bombs. Pathetic. What part of NO do you not understand? This is proposed for right in my backyard AND I DON'T WANT IT. I AM UNALTERABLY OPPOSED.

397-2

This is sheer madness. How dare you even propose this utter nonsense. I lived near Rocky Flats and once was enough. To try to "sell" this ~~idea~~ by the idea of adding "jobs" is ludicrous. Just shame on you. Put this money and energy toward renewable energy. The last thing the world & the United States needs, is more nuclear weapons. They don't make us safer. They aren't wanted. They aren't needed. Stop this madness.

CMRR-NF Hearings:
Tues, May 24, 5 p.m. to 9 p.m., Holiday Inn Express, 60 Entrada Dr., Los Alamos.
Wed, May 25, 5 p.m. to 9 p.m., Santa Claran Hotel, 464 N. Riverside Dr., Espanola.
Thur, May 26, 5 p.m. to 9 p.m., Santa Fe Community College, Jemez Rooms, 6401 Richards Ave, Santa Fe.
View or download SEIS document : http://www.nepa.energy.gov *or* http://www.nnsa.energy.gov/nepa/cmrrseis

397-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMRR Mission, of this CRD for more information.

Regarding the Fukushima Daiichi Nuclear Power Plant, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

397-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the CMRR-NF SEIS. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Commentor No. 398: Bob Trujillo

Mr. John Tegtmeier

I listened to the radio last night. A preacher had one emphatic message which he preached with unchangeable love. America is doomed unless we take a good look at what we are doing.

I graduated from U.C. Berkeley in Feb 1965. My education is Electrical Engineer. My specialization is Feedback Control System. The professor who taught me this was Robert M. Saunders who later became the Dean of Engineering at the University of California Campus at Santa Cruz.

A feedback system can go into runaway mode or slew itself into being null and void by a zero control signal. Both types of signals mean the end of a system.

Do we really need the proposed LANL Bomb Factory? 398-1

As a Scientist educated at U.C. Berkeley I have a library of Chemistry and Metallurgy that I think needs to be used by the Research Replacement Project at Los Alamos

398-1 NNSA notes the commentor's question about the need for the CMRR-NF project. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility.

Commentor No. 398 (cont'd): Bob Trujillo

National Laboratory (LANL).

Since the Department of Energy (DOE) held a public meeting about the Draft environmental impact statement for the proposed #6 Billion Nuclear Facility which is part of the Chemistry and Metallurgy Research Replacement Project at LANL I only became aware of their request for comments prior to the June 23th due date.

398-2 Please allow me entrance into this comment submission procedure even though I am not meeting the due date in regards to Draft CMRR-NF SEIS.

At U.C. Berkeley I studied Nuclear Physics in my studies in Electrical Engineering.

Since then in my own individual library I have acquired and reviewed the same series of Science that I was taught at U.C. Berkeley with one important up date on my past.

398-2 NNSA considered all comments received after the end of the public comment period in preparing this *Final CMRR-NF SEIS*.

Commentor No. 398 (cont'd): Bob Trujillo

Every book that I read changes the concept of the word weight to mass.

Instead of study of Atomic Weight in the Periodic Table of the elements we study Atomic Mass.

By this change being omni present in all books taught at all levels of education from Kindergarden to Post Graduate studies uniformily in Science Weight is not considered real.

Therefore as we study mass in we must proceed further into this dead-end street to formulate F=ma, Work = Force x Distance, E=mc², and power = Work/Time or Energy/Time and thus is derived by the United States of America a DOE

Such a DOE is based upon the reality of the existence of Energy which has set aside its validity the moment Science opted to study Mass rather than Weight

An example of this is Soil Science

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Commentor No. 398 (cont'd): Bob Trujillo

A common garden hose produces pressure governed by W/L^2 ie a weight per unit of exiting area in which the water flows.

No mass is involved yet the hose separates the earth into 1) clay of formula $H_2O + H_2O + Al_2O_3 + 2SiO_2$, 2) silt of typical formula $Na_2O + FeO$, 3) Sand of aggregated formula $Al_2O_3 + 2SiO_2$ & 4) pebbles then little rocks etc.

This separation is by weight. It is linear. It is invariable. Not so in the book of Soil Science. The Soil Triangle shows Clay, Silt and Sand arrayed as a Triangle with each being a % of Soil Composition. This thinking is not in alignment with Science.

Another example of separation by weight is the use of filter paper and cellulose powder in Chromatography. In one direction weighted migrating compounds separate out. By changing the migration path by 90° the weighted migrating compounds even metals further separate out.

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Commentor No. 398 (cont'd): Bob Trujillo

Then there is the concept of Light. All of Science considers light to be a wavelength (L) divided by a time (T) ie L/T

Never is it taught that this light is separated from Mass M. Rather the Standard thinking is that light is separated from Weight W.

By these two concepts of W & L/T we obtain WL/T which is called production.

At the Livermore Lawrence Radiation Laboratory my U.C. Berkeley Engineering student friends worked by counting radioactive emission trails in a Wilson Cloud Globe Chamber. Each particle that they counted were in a subatomic trajectory governed by weight W x velocity L/T which they saw as light.

By moving this incorrectly into Force = mass x acceleration man through incorrect research has made possible the making of Nuclear Weapons that can

Response side of this page intentionally left blank.

Commentor No. 398 (cont'd): Bob Trujillo

literally burn down the forest above Los Alamos, New Mexico

I happen to meet two cross country Trail bicycle riders, the day before that forest fire started.

Their comment to me is that they bicycle 150 to 200 miles per day. Imagine that in the run between Abiquiu and Cuba through very rugged high country that these two very tired individuals set up a camp fire to cook food.

Due to an immediate need to get on their bicycles and keep tracking the Trail that they left the fire unattended. Thus the old addage that one careless match can burn down a whole forest became real. The Forest started burning the very next day.

This is what Mass, Force, Work, Energy and Power really mean. No one on earth today needs for LANL to do more research and replacement on a proposed LANL Bomb Factory

398-1 cont'd

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Commentor No. 398 (cont'd): Bob Trujillo

Rather I need you to visit Me at
Abiquiu New Mexico in order to
begin an exact and very difficult
review of chemistry & Metallurgy
as I see it per the information that
I own in my library of books that
the computer has made nominally
null and void i.e. all of them
are Discarded

We may possible Discard Earth
& then America will be doomed for
certain or we can open up to
sensible review and re-invent
ourselves.

I have done this to me. My
name is Jesus Christ Electrical
Engineer & Feedback Control
System Specialist.

Looking forward to your kind
communication with me. Write me
at Bob Trujillo P.O. Box Abiquiu
New Mexico or stop by and visit. From
where I live it looks like Los Alamos is
burning up. Kind of like the aftereffect of Nuclear War.
J.C.

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Commentor No. 398 (cont'd): Bob Trujillo

Mr. Tegtmeier

An example of the books I have marked Discard is Valence Theory which considers the foundation of Atomic Theory based upon Newtons classical equation F=ma which the book prints cannot be derived but is founded on experiment. The book goes on to print that the laws of Quantum Mechanics likewise are derived in the same light, the final test is that Quantum Mechanics Solution Equations agree with experiment.

By being marked Discard and thrown in the Trash Can per librarian decision of discarded out dated books we as the Community of Concerned Scientist have to go to the computer which with error in computers error out every single time.

I do not use the computer. At U.C. Berkeley I studied the Diode Diodes are doped. Two doping Diodes back to back make a transistor A series of integrated transistors make transistor-transistor logic & this gives us doped digital. Dope is prohibited by Law.

Response side of this page intentionally left blank.

Commentor No. 398 (cont'd): Bob Trujillo

So when 200 or more of the most extensive type of Scientific books get discarded by a deputy Librarian addicted to control by an instrument that cannot see, hear, feel, taste or touch as we people do I think that is equivalent to Idol Worship.

I have the books. Each and every one of them can only be read by an educated person. People who do not have Scientific education cannot read such, because they have no background training to do so.

So I suggest that we become University Readers & go to the books to validate any other system that we are today using especially the Computer.

What do you think. Best J.C.

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Commentor No. 399: Jeanne Green

From: Jeanne Green [innerlight52@hotmail.com]
Sent: Monday, May 09, 2011 11:47 PM
To: SEIS for CMRR-NF 10-10
Subject: comment form/hearing in Taos
Attachments: townrequestforhearingcMRRseis.pdf

Hello Mr. Tegtmeier,

Thank you for the deadline extention on the CMRR-NF SEIS and for the additional hearing in Albuquerque.

We still want a hearing in Taos as we will also be affected by this decision. We are downwind of LANL. Attached is the letter of request from our Mayor.

Also, I still cannot find a comment form available to the public on any of the websites. Please send me a copy by e-mail attachment. Thank you.

Jeanne Green 575-751-4130

399-1

399-1 Comment noted. The letter from Mayor Cordova is included as Comment No. 5 of this CRD.

After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

Commentor No. 399 (cont'd): Jeanne Green

Darren M. Cordova, Mayor

Councilmembers:
Rudy C. Abeyta
A. Eugene Sanchez
Amy J. Quintana
Michael A. Silva

Daniel R. Miera, Town Manager
Abigail R. Adame, Assistant Town Manager

Taos Municipal Building
400 Camino de la Placita
Taos, New Mexico 87571
(575) 751-2000
Fax (575) 751-2026

Visit us on our Website at:
www.taosgov.com

May 5, 2011

John A. Tegtmeier
Department of Energy
National Nuclear Security Administration
Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544

Mr. Tegtmeier:

The Town of Taos is in receipt of a form letter from your office, dated April 21, 2011, wherein it informs the reader that your office will be holding three public hearings on May 24, 25, and 26, in Los Alamos, Española, and Santa Fe (respectively). The purpose of these hearings is to discuss the findings of the environmental impact analysis contained within the Draft CMRR SEIS.

Given that the Town of Taos, as a representative agency of its citizens, considers the greater Taos community as an interested party, we respectfully request that a formal hearing, similar to those afforded to other communities in the affected region, be held within the Town of Taos. There is a considerable number of citizens in our area that have taken positions of interest on this matter, so much so that the Town Council took a similar position regarding its view of the SEIS pertaining to the Nuclear Facility portion of the CMRR Project by passing Town of Taos *Resolution 11-03* on January 25, 2011. In support of this request for a formal hearing in Taos, the Town is willing to provide the meeting space necessary to accommodate such a hearing.

We ask that your office seriously consider our request and hope you will grant said request as soon as possible to allow for adequate notification to our public. Please feel free to contact me or the Town Manager, Daniel Miera, directly at (575) 751-2003 should you have any questions or wish to discuss this request in more detail. Thank you.

399-1 cont'd

Regards,

Darren M. Cordova
Mayor

"La Ciudad de Don Fernando de Taos"
Incorporated May 7, 1934

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Commentor No. 800: Johnnie S. Martinez, Jr.

Chemistry and Metallurgy Research Replacement Project
Supplemental Environmental Impact Statement comment – May 24, 2011

Johnnie S. Martinez, Jr.
P. O. Box 581
Velarde, NM 87582

I am a 61-year resident of northern New Mexico and a 36-year employee of the Los Alamos National Laboratory. I'm also a father and a grandfather who is concerned about the safety and security of his family.

I support the Chemistry and Metallurgy Research Replacement (CMRR) Project, and I have several reasons for doing so that I'd like to share this evening:

National security

- I believe very strongly in the value of nuclear weapons as deterrents to all-out global warfare. As Dr. Norris Bradbury, a former director of the Laboratory, so aptly stated "The purpose of nuclear weapons is not to use them but to force people to find other means to solve their differences." I'm proud to be part of an institution that has helped make those fine words a reality.
- I am personally convinced that the science and technology underpinning this nation's nuclear deterrence capability must be maintained and should in fact be strengthened to address new challenges posed by terrorism and the proliferation of nuclear materials.
- The CMRR facility is designed to address these national security needs, and I therefore support its construction and operation as a safe and effective resource for doing so.

800-1

Environment

- The existing CMR building is old; in fact, it's almost as old as I am, and I believe its continued operation poses a much greater potential threat to the environment than does the proposed CMRR facility.
- I've had the opportunity to attend briefings and tours of the CMRR's sister facility, the Radiological Laboratory Utility Office Building, and I've come to the conviction that environmental safety is a key element of plans for the CMRR facility's construction and will be a fundamental element of its operation.

800-2

Economy

- Northern New Mexico was selected in 1943 as the site of the Manhattan Project because of its isolated location. Northern New Mexico is still relatively isolated, and many of us remain dependent on LANL as an economic resource.
- The CMRR project will present employment and procurement opportunities in northern New Mexico that would otherwise be difficult or nearly impossible to find in today's economic environment.

800-3

Thank you for this opportunity to share my thoughts.

800-1 NNSA notes the commentor's support for the proposed CMRR-NF project. All proposed new facilities would be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment. DOE Order 420.1B (DOE 2005) requires that nuclear or nonnuclear facilities be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards, including earthquakes. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for a description of some of the recommendations regarding enhancement of the CMRR-NF to address issues related to nearby seismic faults.

800-2 Chapter 1, Section 1.2 summarizes the operational and safety concerns related to the CMR Building. The proposed CMRR-NF would be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment.

800-3 The socioeconomics sections of the CMRR-NF SEIS present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9).

Commentor No. 801: Scott Kovac, Operations and Research Director Nuclear Watch New Mexico

May 5, 2011

Mr. John Tegtmeier
CMRR-NF SEIS Document Manger
USDOE, NNSA
Los Alamos Site Office
3747 West Jemez Rd.
Los Alamos, NM 87544

Via e-mail to NEPALASO@doeal.gov <mailto:NEPALASO@doeal.gov>

Dear Mr. Tegtmeier:

We, the undersigned, respectfully request that three additional public hearings be held and the comment period be extended by 75 days for the draft Chemistry and Metallurgy Research Replacement Project-Nuclear Facility Supplemental Environmental Impact Statement (draft CMRR-NF SEIS). Thus, our request is that comments on the draft CMRR-NF SEIS be due on August 26, 2011.

Additional public hearings should be held in Albuquerque, Taos, and Washington, DC. There is substantial interest in the CMRR-NF both in New Mexico and nationally. About 40 percent of New Mexico's population lives in the Albuquerque area, which is downstream from LANL, and it is not reasonable for people to have to travel to Santa Fe as the closest location to attend a public hearing. People in Taos are downwind of LANL and it is not reasonable for people to have to travel to Española as the closest location to attend a public hearing. Both Santa Fe and Española are approximately 60 miles from Albuquerque and Taos, respectively.

Additionally, because of the billions of dollars needed for the project, funding for the nuclear weapons complex and the CMRR–NF in particular has been a central focus of a significant national debate. The CMRR-NF SEIS indicates that the CMRR-NF is intended to support "manufacturing, development, and surveillance of nuclear weapons pits." Because its "need for action" is related to nuclear weapons production and because of the enormous resources required, the CMRR-NF has national implications. As a result, it is appropriate that policy makers and experts who debated funding for the CMRR-NF be given a chance to speak in a Washington, DC hearing.

Given the importance of the CMRR-NF and the substantial public interest, we believe that there will be substantial numbers of people interested in providing public comment at all of the hearings. Thus, the additional hearings are necessary so that those interested may provide public comments at reasonable times and locations, and may each have ample time to provide public comment. This will enhance the public participation process under the National Environmental Policy Act (NEPA), which we know is a common goal.

801-1

801-1 On April 29, 2011, NNSA published a notice in the *Federal Register* (76 FR 24018) announcing the availability of the *Draft CMRR-NF SEIS*, the duration of the comment period, the location and timing of public hearings, and the various methods for submitting comments. NNSA's implementation of public participation activities for review of the *Draft CMRR-NF SEIS* was consistent with past practices for other NEPA documents prepared for LANL. NNSA announced a 45-day comment period to provide sufficient time for interested parties to schedule their review of the *Draft CMRR-NF SEIS* around other commitments. In response to requests for additional review time, the comment period was extended by 15 days to a total review time of 60 days (76 FR 28222). NNSA believes this allows a sufficient period of time to provide comments on the *Draft CMRR-NF SEIS*. The Las Conchas wildfire affected many in the immediate vicinity of LANL. All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*. Other NNSA EIS processes were delayed to respond to concerns regarding multiple NEPA public involvement opportunities (for example, the Sandia SWEIS scoping meetings and the BSL-3 Draft EIS public review period).

As with previous LANL NEPA documents, the public hearings were held at regional venues near LANL (Los Alamos, Española, and Santa Fe). In response to requests for additional public hearings, NNSA also held a fourth public hearing in Albuquerque (76 FR 28222). NNSA decided to hold an informational meeting in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period. DOE determined that holding a public hearing in Washington, D.C., is not appropriate for the *CMRR-NF SEIS* because construction of the CMRR-NF is specific to LANL missions.

Commentor No. 801 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

We believe this requested time extension is merited because:

1. The proposed scale of the CMRR-NF SEIS has grown dramatically, with the addition of a second modified construction alternative – the "Shallow Excavation Option." Further, the Project has seriously grown in complexity in order to address seismic issues, with, for example, added related subprojects, such as the concrete batch plant and the pouring of a 250,000 yd^3 foundation of a lean concrete basemat to mitigate concerns about increased seismic risks. Because the CMRR-NF SEIS provides no preferred construction option at this time, research and technical review to prepare informed comments will have to be performed on multiple construction options.

2. The "Extensive Upgrades to the Existing CMR Building" (CMR Alternative 2) was removed as an alternative in the draft CMRR-NF SEIS from the alternatives provided in the October 1, 2010, Notice of Intent. Those members of the public who believe this to be the best alternative will still have to do research and technical review for this important omission. It will require even more work from the public because the baseline impacts have not been provided by NNSA.

3. Further, the CMRR-NF is not scheduled to be completed any earlier than FY 2022. Given all this, a 75-day extension, which we argue is the right thing to do, is inconsequential compared to the Project's increased scope and long schedule. Consequently, we think that granting the extension places no significant burden on NNSA, while not granting the extension would place a significant burden on the public.

4. Public scoping hearings are currently scheduled to be held May 24, 25, and 26, which will provide the public with an opportunity to interact with NNSA personnel, ask questions, discuss concerns, and likely become better informed. Then unfortunately the proposed comment period would end just 18 days later. We believe that is not sufficient time for the general public to research, prepare and submit informed comments on the draft CMRR-NF SEIS after having the benefit of interacting with NNSA officials.

5. Another Department of Energy (DOE) NEPA process involving the Lab is being held concurrently with the scoping comment period for the CMRR-NF SEIS. This is the draft Greater Than Class C EIS (GTCC EIS), which provides a 120-day comment period (the same as we are requesting for the draft CMRR-NF SEIS) with comments due on June 27 – a mere two weeks after the CMRR-NF comments are due. This limited timeframe places an undue hardship on NGOs and the public who are providing DOE with informed public comments about both important matters at LANL. A 75-day extension would make the comments on the draft due August 26, which is a reasonable time after the draft GTCC EIS comments are due.

801-2

CMRR-NF SEIS Additional Public Hearings
And Comment Period Extension Request
May 5, 2011 2

801-2 NNSA does not believe there is reason to extend the review time. The cited scale of the project has little bearing on the time required to review the *Draft CMRR-NF SEIS*. The addition of a construction option is a minor variation to the Modified CMRR-NF Alternative that does not affect the overall performance of the facility. Elimination of detailed analysis of an alternative to upgrade the existing CMR Building also does not warrant additional review time. The scheduled construction completion date of 2020 included in the *CMRR-NF SEIS* also does not bear on the time required to review the SEIS. Holding public hearings in the middle of the comment period is generally considered to be desirable in that it gives commentors some time to review the document prior to the hearings and time after the hearings to prepare comments. NNSA extended the comment period to 60 days, ending on June 28, 2011, which provided commentors with 15 additional days. As noted in response to Comment 801-1, other DOE NEPA activities were rescheduled in response to public concerns regarding multiple NEPA public involvement opportunities.

Commentor No. 801 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

In sum, given the national interest and importance of the Project, at least three additional public hearings are necessary; the growth in project size, construction options and complexity, and the overlapping conflict with the draft GTCC EIS NEPA process, make it absolutely necessary for NNSA to grant a 75-day extension for draft CMRR-NF SEIS comment period.

Please do not hesitate to contact us through our email addresses below should you have any questions or comments. We look forward to your reply at your earliest convenience.

Sincerely,
Scott Kovac, Operations Director
Nuclear Watch New Mexico
(505) 989-7342
scott@nukewatch.org

CC: Mr. Matthew Padilla, Senator Tom Udall's Office
Ms. Michelle Jacquez-Ortiz, Senator Tom Udall's Office
Mr. Jonathan Epstein, Senator Jeff Bingaman's Office
Ms. Angela Ramirez, Rep. Ben Ray Lujan's Office
Ms. Jennifer Catechis, Rep. Ben Ray Lujan's Office
Mr. Tony Samp, Rep. Martin Heinrich's office
Tom D'Agostino, NNSA
Secretary Steven Chu
White House Office Environmental Justice Task Force

[Alphabetically listed by organization]
Alliance for Nuclear Accountability
Susan Gordon, Director
Santa Fe, NM

Amigos Bravos
Brian Shields, Executive Director
Taos, NM

Agua es Vida Action Team (AVAT)
Lesley Weinstock, Coordinator
Albuquerque, NM

Bluewater Valley Downstream Alliance
Candace Head-Dylla
Milan, NM

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Commentor No. 801 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

Catholic Charities of Gallup Diocese
Rose Marie Cecchini, MM, Office of Life, Peace, Justice & Creation Stewardship
Gallup, NM

Code Pink Taos Women (and men) for Peace and Justice
Jeanne Green, Local Coordinator
Taos, NM

Concerned Citizens for Nuclear Safety
Joni Arends, Executive Director
Santa Fe, NM

Citizen Action
Dave McCoy, Executive Director
Albuquerque, NM

Citizens for Alternatives to Radioactive Dumping
Janet Greenwald, Co-coordinator
Albuquerque, NM

Embudo Valley Environmental Monitoring Group
Sheri Kotowski, Lead Organizer
Dixon, NM

Friends of the Earth
Tom Clements, Southeastern Nuclear Campaign Coordinator
Columbia, SC

FRESH, Inc.
Lisa Crawford, President
Harrison, OH

Honor Our Pueblo Existence (H.O.P.E.)
Marian Naranjo, Director
Espanola, NM

Loretto Community
Penelope McMullen, SL
Santa Fe, NM

Natural Resources Defense Council (NRDC)
Christopher Paine, Director, Nuclear Program
Washington, DC

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Commentor No. 801 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

New Mexico Environmental Law Center
Douglas Meiklejohn, Executive Director
Santa Fe, NM

Nuclear Age Peace Foundation
Rick Wayman, Director of Programs & Operations
Santa Barbara, CA

Nuclear Watch New Mexico
Jay Coghlan, Executive Director
Santa Fe, NM

Nuclear Watch South
Glenn Carroll, Coordinator
Atlanta, GA

Oak Ridge Environmental Peace Alliance
Ralph Hutchison, coordinator
Oak Ridge, TN

Peace Action and Peace Action Education Fund
Kevin Martin, Executive Director
Silver Spring, MD

The Peace Farm
Jerry Stein, President
Amarillo, TX

Physicians for Social Responsibility
Peter Wilk, MD, Executive Director
Washington, DC

Rocky Mountain Peace and Justice Center
LeRoy Moore, Ph.D.
Boulder, Colorado

Southwest Research and Information Center
Don Hancock
Albuquerque, NM

Tewa Women United
Beata Tsosie, Environmental Justice
Santa Cruz, NM

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Commentor No. 801 (cont'd): Scott Kovac, Operations and Research Director, Nuclear Watch New Mexico

Think Outside the Bomb
Lisa Putkey, Youth Coordinator
Chimayo, NM

Tri-Valley CAREs
Marylia Kelley, Executive Director
Livermore, CA

Union of Concerned Scientists
Dr. Lisbeth Gronlund, Co-Director and Senior Scientist, Global Security Program
Cambridge, MA

Women's Action for New Directions
Susan Shaer, Executive Director
Washington, DC

[Individuals]
The Rev. Holly Beaumont, D. Min.
Santa Fe, NM

Marilyn Hoff
Taos, NM

April Mondragon
El Prado, NM

Quita Ortiz
Pojoaque, NM

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Campaign A

To: NEPALASO@doeal.gov
Subject: Support of Construction for LANL's CMRR Facility

Dear Mr. Tegtmeier,

I would like to take this opportunity to express my support for construction of the Chemistry and Metallurgy Replacement Project (CMRR) at Los Alamos National Laboratory. I am an employee of Jack B. Henderson Construction Company (JBH). Our company has performed work at LANL for a couple of decades, opening an office on Trinity Drive in 1996.

Currently we are serving as General Contractor for the RLUOB Ventilation and Piping projects adjacent to the proposed CMRR nuclear facility. Please count me as a supporter of the continued development of this effort and facility. Not only will this project provide hundreds of construction and engineering jobs, bolstering the Northern New Mexico economy, it will serve a critical need in support of our Nation's energy and national security goals.

A-1

Thank you,

The Employees of Jack B. Henderson Const. Co.
Albuquerque, New Mexico

A-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF.

The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market for the proposed alternatives (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would employ a construction workforce for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (both direct and indirect) is relatively small in comparison to the total labor force in the four-county ROI. However, NNSA recognizes the opinion stated by a number of commentors during the public comment period that the creation of any construction jobs during the current economic climate would have a positive effect on the construction industry in northern New Mexico. See Section 2.7, Economic Impacts, of this CRD for more information.

Campaign A (cont'd)

Individuals submitting this campaign:

Dorian G. Atwater
Tina M. Atwater
Bryan Baber
Lena Burpo
Shannon Clark
Bob Fraser
Lucas Gallegos
Maria Guy
Sonia Lopez
Mike McAnich
Lanie Norton
Bill Owen
Melissa Padilla-Gomez
Myra Redman
John Robertson
Doreen Romero
Kevin Sheffield
Barb Spitz
John Stroud
Charlie Watson
Leish M. Weger
Leah Winchester
Steve Wright

Campaign B

A friend of mine passed along a report about your new developments at the Los Alamos National Laboratory. I am incredibly upset by this proposed new project. **B-1**

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. **B-2**

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. **B-3**

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. **B-4**

B-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

B-2 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the Pajarito and Rendija fault systems. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, these faults do not extend to the proposed construction location.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

B-3 NNSA notes that as indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials

Campaign B (cont'd)

characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Refer to Section 2.4, CMR Mission, of this CRD for more information. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

B-4 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

Campaign B (cont'd)

Individuals submitting this campaign:

Jane Acuna
Maris Arnold
Martha Baldoni
Jill Balduini
Lucille Bertuccio
Noah and Natasha Brenner
Carol Brown
Mary Burton
Martha W. Bushnell
John Gasperoni, Ph.D.
Pat and Gary Gover
Richard Grooms
Nancy Hagenbach
Sarah Hamilton
Sherman Hoover
Lindsay Iliff
SJ Jacobson
Leona Juris
Stewart Loeblich
Maria Marchegiani
Christie McGinn
Jean Mcmahon
Penelope McMullen
Alex Mexi
Brian Moe
Douglas Parker
Shaddon Ross
Sharon Rossol
Karen Rubino
MaryEllen Sauser
Annique Savage
Bettina Bowers Schwan
Frida Simms
Howard Stein
William Tepper
Lisa Timmermeyer
Dorothy Varellas

Campaign C

The new plans for a CMRR Nuclear Facility at the Los Alamos Lab are alarming. As a citizen who is concerned about nuclear proliferation and national security, here are a number of reasons why I oppose this project: ***C-1***

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. ***C-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***C-3***

The United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limit implemented by DOE in 1999 should suffice. ***C-4***

C-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF, and concerns about proliferation of nuclear weapons and national security. See Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

C-2 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazards analyses of the LANL region (LANL 2007, 2009). The updated seismic hazards analyses provided a better understanding of the ground motion and seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a sizable earthquake event without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

C-3 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

C-4 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in

Campaign C (cont'd)

December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Campaign C (cont'd)

Individuals submitting this campaign:

Alicia Bomhoff
Delphine Busch
Victoria Bush
Nancy Chismar
Sandy Commons
Jean Cossey
John Dalla
Carmen Dinescu
Sarah Fritz
H.D. Frotscher
Lynne Glasner
Michelle Gobely
Laura Jolly
Kirpal Khalsa
Elisabeth King
Joan Kirk
Donna Knipp
Kenneth Korten
Michelee Martin
Jan McCall
Pamela Melcher
Barbara and Paul Moe
John ONeil
Kwaku Oppong
Wendell Perks Jr.
Bartley Reese
Nancy Reutter
Helene Rosen
MaryEllen Sauser
Sherri Silverman
Joan Singleton
Edith Tschetter
Michelle Turner
Danny Watson
Julie Whitesell
Amy Wiesner
Geoff Young

Campaign D

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. As a citizen who is concerned about nuclear proliferation and national security, here are a number of reasons why I oppose the proposed CMRR Nuclear Facility: **D-1**

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. **D-2**

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. **D-3**

Expanding the United States' nuclear weapons production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere. **D-4**

D-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF, and concerns about proliferation of nuclear weapons and national security. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

D-2 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the Pajarito and Rendija fault systems. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, these faults do not extend to the proposed construction location.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign D (cont'd)

D-3 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

D-4 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

Campaign D (cont'd)

Individuals submitting this campaign:

Jean Alford
Glen Anderson
Tammy Betancourt
Ana Gonzales Biele
Beatrice Brailsford
Laurrie Cozza
Sigrid Dale
Dorothy Dean
Marygrace Decotii
Margaret Diegelman
John Emrys
Maury Grimm
Veronica Grover
Jeanne Guerin
Lenore Hawkins
Michelle Howe
Paridokht Jenab
Piper Karie
Debra King
Susan Koehne
Erma Lewis
Penelope McMullen
Margaret Moore
Joel Morris
Adrienne Moumin
Gayle Moutard
Tetsu Okuhara
Sheridan Phillips
Peggy Pryor
Glenn Reeves
James Roberts
Ilana Rossoff
Helen Rynaski
Kathy Sipowicz
Kellie Smith
Cletus Stein
Barbara Williams

Campaign D

Individuals submitting "Campaign D" with additional comments

... popula... surrou... LANL t... ophic risks this ... ility would pose.

Even without a natural disaster, manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. In fact, construction and operation of the CMRR-NF will interfere with efforts to clean up existing pollution at LANL.

The current cost estimate for the CMRR is $5.8 billion. That price tag emphasizes that the US simply does not need new plutonium pits. Furthermore, new "replacement" components, including plutonium pits that could be heavily modified from originally tested designs should be avoided because their use would inherently undermine confidence in the extensively tested reliable stockpile. *D1-1*

Expanding the United States' nuclear weapons production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere.

Beatrice Brailsford

Snake River Alliance

D1-1 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

As previously indicated, Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, states that pit production would not occur in the CMRR-NF. The President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile, which would be accomplished in part by activities that would be conducted at the proposed CMRR-NF, including analytical chemistry, materials characterization, and plutonium research.

Campaign E

I was just recently told about your new plutonium facility at the Los Alamos National Laboratory. Here are several reasons I believe it is not in the interest of any U.S. citizen to have this facility built: ***E-1***

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. ***E-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***E-3***

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. ***E-4***

E-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

E-2 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports the work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible

Campaign E (cont'd)

to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

E-3 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

E-4 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the Pajarito and Rendija fault systems. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, these faults do not extend to the proposed construction location.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological

Campaign E (cont'd)

material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign E (cont'd)

Individuals submitting this campaign:

Jessie Bacon
Leticia Bayona
Cathie Bird
Mary Ann Cassidy
John Cielukowski
Gloria Coleman
Chuck Donegan
Christopher Dougherty
Robert Ellis
Michael W. Evans
Amanda Finlayson
Robert Fritsch
Greg Gable
Sonia Goldstein
Elizabeth Guise
Kimberly Hanson
Whitney Hawks
Charlotte Hendrickson
Elaine Howes
Geraldine Kline
John Kraemer
John Martin
Mary Jo Miserendino
Jan Paley
Kristina Paris
Robert Scheff
Kathy Seabrook
Steve Simmons
Alice Slater
Carmen Sosa
Emily Stern
Andrew Tremain
Katia Van Horn
Leslie Washington
Debra Webb
Jearline Wostal

Campaign F

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have listed a number of different reasons why this plan would be harmful and costly: ***F-1***

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. ***F-2***

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. ***F-3***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***F-4***

F-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

F-2 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the

Campaign F (cont'd)

Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

F-3 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

F-4 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional

Campaign F (cont'd)

detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign F (cont'd)

Individuals submitting this campaign:

Dina Angress
Donna Benjamin
Pamela Vouros Callahan
Kerrilyn Chew
Aileen Conway
Sister Kathleen Corbett
Merrily Davies
Jenn Dodd
Jeanette Eastman
Marie Flom
Kris Glover
Susan Gordon
Jess Graffell
David Hoemberg
Richard Kelley
Marsha Maxwell
Rebecca Rens
Annie Rogers
Scott Rundt
Kelley Scanlon
Megan Sherwood
Lisa de St. Croix
Candice Stuart
Grace Tiessen
Janice Wheelock
Martha Wood
David Zahrt

Campaign F (cont'd)

Individuals submitting "Campaign F" with additional comments

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have listed a number of different reasons why this plan would be harmful and costly:

At a time when the US and Russia are reducing their stockpiles of nuclear weapons, it is crazy to be expanding the capacity to produce up to 80 warheads a year. We need to not expand our capacity to contaminate the earth with more radioactive and toxic materials from a building in a seismic zone. ***F1-1***

Susan Gordon

F1-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

See response to Comment F-4 regarding seismic concerns.

Campaign G

The NNSA's plan to construct new plutonium pits at the Los Alamos Labs is a bad idea. I have listed a number of different reasons why this plan would be harmful and costly: ***G-1***

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. ***G-2***

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. ***G-3***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***G-4***

G-1 NNSA acknowledges the commentor's objections to new plutonium pits at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

G-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the Federal Register on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the

Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

G-3 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

G-4 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional

Campaign G (cont'd)

detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign G (cont'd)

Individuals submitting this campaign:

Elizabeth Andrus
Elisse Antczak
Chuck Balduini
Dolores Bray
Phoury Chhun
Suzanne Clark
Ann Crisp
Jasmine Darrah
Denise DeGarmo
Michelle Delon
Annamarta Dostourian
Patricia Farrington
Angela Fazzari
Russell Grindle
Thomas C. Hall
Sue Hawes
Lauren Heartsill
Jeanie Johnson
Frances Kean
Gerson Lesser
Lynn Merle
Paula Myles
Maureen Nelson
Barbara O'Reilly
Yolanda Oney
Samantha Osborne
Trudi Richards
Roberta Richardson
Pamela Rosenberg
George S. Darlen Ross
Will Santana
Kathryn Simmons
Carl Stilwell
Tanya Story
Karen Turner
Beverly Walker
Angela Werneke

Campaign G (cont'd)

Individuals submitting "Campaign G" with additional comments

With the fire now threatening Los Alamos, it becomes even more obvious that constructing new plutonium pits there is a terrible idea.

The costs to build a plutonium pit production complex are too high. The United States government simply can't afford this.

G1-1

Karen Turner

G1-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

See response to Comment G-2 regarding costs.

Campaign H

The NNSA is doing ecological harm by constructing a new nuclear storage and development facility at the Los Alamos National Laboratory. Here are several reasons I believe it is not in the interest of any U.S. citizen to have this facility built: ***H-1***

The United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limit implemented by DOE in 1999 should suffice. ***H-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***H-3***

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. ***H-4***

H-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The potential environmental impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10, of the *CMRR-NF SEIS*. Refer to Chapter 4, Section 4.2.7, 4.3.7, and 4.4.7 of the *CMRR–NF SEIS* for specific analyses of possible impacts on LANL ecological resources.

H-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

H-3 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

H-4 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Campaign H (cont'd)

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign H (cont'd)

Individuals submitting this campaign:

Susan Aram
Stephanie Binch
Sallie Bingham
Juanita Bishop
Lynda Braun
Juanita Carl
K. Chung
Grace Ertel
Ken Fisler
Allison Gale
Mali Gesmundo
Lisle Hall
Elizabeth (Bay) Hallowell
Timothy Haught
Christian Heinold
Tuesday Hoffman
Ana Jude
Charlotte Koons
Robert Krikourian
David Laird
Larry Lambeth
Michele McFerran
Whitney Metz
Susan Mitchell
Sophie Morel
Judi Muller
Tuan Nguyen
Tracy Ouellette
Chris Pomeroy
Roberta Richardson
Rosalind Rickman
Jeanne Ripp
Gloria Salazar, LISW
Roger Santerre
Morgan Sky
Vicki Teague-Cooper
Stan and Dorothy Thomas
Rowena Wyckoff

Campaign I

I was just recently told about your possible new plutonium facility at the Los Alamos National Laboratory. I am very upset by this new project

The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include “taking no action” as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. ***I-1***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab’s discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***I-2***

Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth. ***I-3***

I-1 NNSA acknowledges the commentor’s concerns about construction and operation of the CMRR NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, “no build” alternative, however, would not satisfy NNSA’s stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

I-2 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL’s pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Campaign I (cont'd)

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

I-3 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Campaign I (cont'd)

Individuals submitting this campaign:

Joyce Casey
Lin Daley
Jamie Erfurdt
Paulette Finnegan
Christine Gorton
Sean Gough
Sandra Gray
Penny Dixon Gumm
David Hartsough
Veronica Hayes
Norma Hogan
Tracy Holthaus
Myrna Marcarian
Janice Martin
Bobbi Masters
Sarah Menefee
David Middleton
Agneta Norberg
Phil Odea
Patricia Pratt
Frank Quin
Rosa Rashall
Reverend Nancy Roth
Sarah Ryan
Rita Schwarzenberger
Cathy Smith
Dr. William J. Sneck, S.J., Ph.D.
Reverend Crow Swimsaway, Ph.D.
Megan Taylor
Rosie Volpe
Martha Williams
The Wojo Family

Campaign I (cont'd)

Individuals submitting "Campaign I" with additional comments

Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth.

Certainly the tragedy being played out in Japan right now has lessons for us. Please ensure that we do not follow a path that would lead future generations to face what the Japanese are now facing. Nuclear power is not safe, despite what we are told. *I1-1*

Rita Schwarzenberger

I1-1 NNSA acknowledges the commentor's opposition to nuclear power and concern about the effects of more accidents similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant. The use of nuclear power is not within the scope of the *CMRR-NF SEIS*. NNSA notes, however, that there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

Campaign J

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have summarized some of my concerns below. ***J-1***

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. ***J-2***

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. ***J-3***

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. ***J-4***

J-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

J-2 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue

Campaign J (cont'd)

to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

J-3 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

J-4 NNSA notes that as indicated in Chapter 2, Section 2.4, of the CMRR-NF SEIS, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the Federal Register on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original CMRR EIS and the current *CMRR-NF SEIS*

Campaign J (cont'd)

(see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Campaign J (cont'd)

Individuals submitting this campaign:

Beverley Abbey
Jeremy Atkinson
Janet Babgy
Philip Balcombe
Charlotte Berger
Sasan Bidari
John Bromer
Michelle Cohn
Lucia Comnes
Jaclyn Cranach
Robert Daly
Laura Dean
Patricia Donnelly
Sheila Geist
Andi Gibson
Wouter Hagoort
Bill Hay
K. Heatherington
Joanne Hoemberg
Blaine Jensen
Eva Johanos
Norman Keegel
Jubal Lambert
Penelope McMullen
Patricia Moore
Raymond Nash
Diane Nova, Ph.D.
Paul Ordway
Ivy Quintero
Jennifer Rodriguez
Mary Helen Sandoval
Lynn Schneider
Eric Steffen
Diana Stokes
Sally-Alice Thompson
Laurie Todd
Hal Trufan
Celeste Winkle

Campaign K

I have recently been informed of a new plutonium development and handling facility being built at the Los Alamos National Laboratory. I am incredibly concerned by this project and feel the need to inform you of the various dangers of this project. A few of many are listed below. ***K-1***

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. ***K-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***K-3***

The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design. ***K-4***

K-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR-NF.

K-2 NNSA notes that as indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Refer to Section 2.4, CMR Mission, of this CRD for more information. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the

Campaign K (cont'd)

Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

K-3 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

K-4 NNSA notes the commentor's position that a new environmental impact statement is needed, rather than an SEIS. However, NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made

Campaign K (cont'd)

available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign K (cont'd)

Individuals submitting this campaign:

Ed Aguilar
Dan Esposito
Pamela Funkhouser
Matthew Goodman
Jill Hogan
Tricia Kelly
Lauren LaVail
Tamara Lichtenstein
Tamra McConoughey
Michael Meade
Judith Mohling
David Mondejar
Shirley Morrison
Chenoa Ortega
Ivy Quin
Mark Richmond
Kathy Robinson
Diana Sanderson
Val Sanfilippo
Kathleen Sauser
Beth Seberger
Terri Shofner
Joanne Smith
Ame Solomon
Galadriel Spanogians
Mary Swain
Krissy Welch
Susan Williams
Mark Wolgamuth

Campaign K

Individuals submitting "Campaign K" with additional comments

Here in Boulder citizens are struggling to force the DOE to really clean up Rocky Flats. We have found Pu in the dust along the eastern boundary. With a raging wildfire surging toward the lab and the town, surely you must be rethinking the wisdom of building this project.ju

Please don't make the people of New Mexico be at greater risk than they already are by creating a new Rocky Flats.

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start.

Judith Mohling

K1-1

K1-1 NNSA acknowledges the commentor's concern regarding the potential for wildfires in the vicinity of LANL to release hazardous materials to the environment. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Refer to website http://www.lm.doe.gov/lead/sits/w/rocky-flats/rocky.htm for information about the Rocky Flats site.

Campaign L

I would like to voice my dissent concerning the NNSA's new plutonium pit facility being proposed at Los Alamos. ***L-1***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***L-2***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***L-3***

The United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limit implemented by DOE in 1999 should suffice. ***L-4***

L-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

L-2 NNSA notes that as indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

L-3 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that

Campaign L (cont'd)

are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

L-4 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Campaign L (cont'd)

Individuals submitting this campaign:

Chuck Balduini
Petra M. Blix, Ph.D.
Gloria Cameron
David Casey
James Chase
Tom Clements
Jane Cook
Melissa Crutcher
Claire Despins
Joni Dunn
John Essman
Gordon Gerbitz
Richard Henighan
Joan Kirk
Jerome Kirsling
Patsy Lowe
Judith Mackenzie
Patricia Manion
Pauline McShain
Deborah Mihalo
Shyam K. Mondal
Amy Nammack-Weiss
Raun Norquist
Luise Perenne
Duija Ros
Janet Shirley
Alice Slater
Kellie Smith
Ann Suellentrop
Alfredo Valle
Maria Williamson

Campaign L

Individuals submitting "Campaign L" with additional comments

As I watch the Conchas fire from my home in Santa Fe, and listen to the predictable reassurances from the Lab about the security of their nuclear materials I am again beset by the fear and resentment of the presence of this grotesque boondoggle that is the atomic weapons industry.

L1-1 It is past time to redefine the mission of the labs to the research and development of new energy technologies whose potential failures do not threaten the lives and health of the planet. Relying on the infallibility of human action when dealing with the most toxic materials offers no comfort, and the reassurances of officials with vested economic interests ring hollow.

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans.

James Chase

L1-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Funding decisions regarding major Federal programs (for example, energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Campaign M

I was just recently told about your new plutonium facility at the Los Alamos National Laboratory. As a citizen who is concerned with nuclear proliferation and national security, here are a number of reasons why I am concerned: ***M-1***

Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth. ***M-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***M-3***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***M-4***

M-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR-NF, proliferation of nuclear weapons, and national security. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

M-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

M-3 As indicated in Chapter 2, Section 2.4, of the CMRR-NF SEIS, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

M-4 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no

Campaign M (cont'd)

evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign M (cont'd)

Individuals submitting this campaign:

Dove Abbott-Mejorado
Virgil Alley
Jean Bergstrom
P. Boustany
Ashley Choker
Felicity Doyle
Pat Dressler
Alicia Dressman
Shearle Furnish
Pamela Gilchrist
Rand Guthrie
Jon Haigh
Malissa Haslam
Grace Holden
Anne-Barrie Hunter
Molly Johnson
JoAnn Keenan
James Kirks
Peter Klosterman
Susan LaFaive
Carol Lake
Chase Livingston
Kenny Madden
Alison McCormick
Jayne McGuire
Michael Meade
William Messenger
Raynera Mrotek
Mary Murray
Yoshinaga Nara
Jean Nichols
Shane Nodurft
Kimi Quick
Amina Re
Barbara Roche
Margaret Rogers
Sylvia Schleimer
Dr. William J. Sneck, S.J., Ph.D.
Bob Stoddard
Rachel Tennenbaum
Vic and Barby Ulmer
Veneda Waldo
Krissy Welch

Campaign M

Individuals submitting "Campaign M" with additional comments

As a [illegible] nuclear [illegible] and national security, here are a number of reasons why I am concerned about your new plutonium facility at the Los Alamos National Laboratory:

Money spent on the CMRR facility should instead be spent on the clean-up of the many tons of waste still at the LANL site. Without a DOE infusion of at least $400,000,000, LANL will not meet the consent order timeline for the removal of the waste. Building nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth. *M1-1*

Pamela Gilchrist

M1-1 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Campaign M

Individuals submitting "Campaign M" with additional comments

...am. Plutonium is a very potent carcinogen... Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. Cancer rates are elevated due to normal emissions. In 2000 the Cerroi Grande Fire caused widespread contamination. Dust from my house tested too high with Strontium 90. This year I got cancer myself. Now we have a wild fire burning that could dwarf the Cerro Grande. Los Alamos has dry forests on three sides. It is insane to do nuclear production at this facility. And all the waste already there needs to be removed. This should be a matter of national security, and needs to be done before an EIS is considered. **M2-1**

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is also underway at Los Alamos Lab and the results will impact the design of the building. And we have yet to see what this fire brings us...all of northern NM may need to evacuate, but of course indigenous and poor farmers and families won't. It is an abomination that we bear this local threat from our own government facility. War is obsolete. We need all our resources **M2-1 cont'd**

Jean Nichols

M2-1 A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. A summary of possible public health impacts resulting from the fire is included in Chapter 4, Section 4.6.1.3, of the 2008 *LANL SWEIS* (DOE 2008a). As indicated in this section, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself. This section of the *LANL SWEIS* also discusses the *Public Health Assessment* (ATSDR 2006), for which the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed environmental monitoring data from 1980 to 2001 and concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future. The data considered in the ATSDR assessment included at least one full year of environmental monitoring results from the period following the Cerro Grande fire.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 LANL SWEIS, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

LANL manages its wastes through an extensive and well-documented waste management program to ensure proper storage and disposal of its wastes in accordance with applicable environmental regulations and nuclear safety standards. As necessary, cleanup of previously disposed wastes and disposal areas is addressed in accordance with the Consent Order. See Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Campaign N

The National Nuclear Security Administration's plan to make a space for building new plutonium pits in Los Alamos is a terrible idea. I have listed a few different reasons I think this needs to be stopped. ***N-1***

Expanding the United States' nuclear weapons production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere. ***N-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***N-3***

The Alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. ***N-4***

N-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

N-2 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

N-3 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

N-4 The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the *2003 CMRR EIS* and selected in the associated 2004 ROD and the *2008 Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and

Campaign N (cont'd)

materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

Campaign N (cont'd)

Individuals submitting this campaign:

Tracy Akers
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Luz Beltran
Lea Bradovich
James Burnham
Mark Donato
PK Doyle
Angela Fazzari
F. Daniel Floss
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Veronica Hayes
Ray Hearne
Luisa Kolker
Marvin Kwit
Jeremy Longstreet
Eve McFarland
Ron McGill
Jitka Mencik
Shelby Miller
Shane Nodurft
Haruka Oatis
Johni Prinz
Nick Rodin
Roger Santerre
Kathryn Sonenshine
Dusty Stepanski
Laurel B. Stranaghan
Mary-Alice Strom
Kim Telgarsky
Liesbeth Vandenbosch
Paul Waybrant
Maureen Wright

Campaign O

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have listed a few different reasons I think the CMRR-NF needs to be stopped. *O-1*

The United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limit implemented by DOE in 1999 should suffice. *O-2*

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. *O-3*

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. *O-4*

O-1 NNSA acknowledges the commentor's opposition to the construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

O-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

O-3 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

O-4 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that

Campaign O (cont'd)

are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign O (cont'd)

Individuals submitting this campaign:

Christopher Ando
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Kim Bergier
Kathy Chad
Paul Drake
Jill Franklin
Rebecca Gardner
Lydia Garvey
Francie Georges
Nicole Gooden
Jenny Heinz
Claire Hertz
Elizabeth Indick
Bridgit Kohler
Judi Kubiak
Charmaine Larsen
Thomas Lewis
Susan Linden
Sharon McMenamin
Dr. Robert K. Musil
Kristina Norman
Peggy and Melodye Pryor
Sister Mary Jane Rhodes
Sylvia Rodriguez
Phyllis Ruth
John Seeburger
David Slater
Elizabeth Smith
B. Soltis
Lindsey Swanson
Fernando Uribe
Mar Vial
Heidi Wagner
Craig Workman
Sonya Yeager-Meeks

Campaign O

Individuals submitting "Campaign O" with additional comments

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory. I have listed a few different reasons I think the CMRR-NF needs to be stopped.

First, let's take notice of the threat again of wildfires. We really need to consider that there are circumstances that we will not be able to predict, there for we will never be guaranteed 100% accident free facilities. *O1-1*

The United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limit implemented by DOE in 1999 should suffice.

Jill Franklin

O1-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 LANL SWEIS, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. The accident analysis presented in Appendix C of the *CMRR-NF SEIS* considered a representative set of severe accidents, including those initiated by earthquakes and fire. See Chapter 4, Section 4.2.10.2, Facility Accidents, and Appendix C, "Evaluation of Human Health Impacts from Facility Accidents," of the *CMRR-NF SEIS* for more information.

Campaign P

I am writing to inform you of my deep concern with your plans at Los Alamos National Laboratory for a CMRR Nuclear Facility. I am incredibly upset by this new project for a variety of reasons. ***P-1***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***P-2***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***P-3***

Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material. ***P-4***

P-1 NNSA acknowledges the commentor's concern about construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

P-2 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Campaign P (cont'd)

P-3 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

P-4 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

Campaign P (cont'd)

Individuals submitting this campaign:

Joel Armin-Hoiland
Jessica Berryhill
Emma Beverage
Taylor Brown
Mary Coleman
Anne Colgan
Anita Coolidge
Wendy Dannett
Raymond Farrington
Cynthia Knuth Fischer
Bill Gallegos
Troy Garrison
Gordon Gosse
Sylvia Hackett
Ilse Hadda
Renee Hurff
Cheryl Liniman
Laura Magzis
Dyan Muse
David Offield
Kathy Oppenhuizen
Richard Ozanne
Victoria Peyser
Alan Rudan
Lilly Ryterski
Joseph Skues
Jon Spitz
Caroline Steele
Robert Stephens
Mele Stokesberry
Matthew Swyers
Pauline Thomas-Brown
Tara Trudell
Ginger Wright
Kimberly Wyke

Campaign Q

I recently heard about the proposed new plutonium facility at the Los Alamos National Laboratory, and I have a few concerns. **Q-1**

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. **Q-2**

The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. **Q-3**

Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth. **Q-4**

Q-1 NNSA acknowledges the commentor's concerns about construction and operation of the CMRR–NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Q-2 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR–NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR–NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Q-3 The No Action Alternative included in the *CMRR–NF SEIS* is to construct and operate a new CMRR–NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR–NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR–NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR–NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR–NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

Campaign Q (cont'd)

Q-4 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR–NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Campaign Q (cont'd)

Individuals submitting this campaign:

Nancy Allen
Patricia Bereczki
Frieda Berryhill
Sally Blakemore
Louise J. Bowles
Aline Brandauer
Margery Carman
Patricia Cook
Caitlin Dean
Jodi Drinkwater
Justin Galle
Mary Green
John Griffin
Tamara Harder
Thea Hetzner
Michael Hobbs
Jack Kelly
Claire Kugelman-Kropp
Jonne Long
Maggie Mandzuk
Jane McCarthy
Carol Joan Patterson
Kristy Pauley
Chris Pomeroy
Joseph Rhodes
Steven Robertson
Jeff Salvaryn
Kathy Sipowicz
Darcy Skarada
Alice Slater
Barbara Stamp
Cletus Stein
Craig Vanderborgh
Marguerite Winkel
Abigail Winston

Campaign Q

Individuals submitting "Campaign Q" with additional comments

I have concerns about the proposed work at LANL, especially in light of the current fire.

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

Aline Brandauer

Q1-1

Q1-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the CMRR-NF SEIS, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 LANL SWEIS, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign Q

Individuals submitting "Campaign Q" with additional comments

I am here in NM right now, witness to the fire encroaching Los Alamos this is insane to create more disaster threats for our communities here.

I can not allow this to go forward and all of us here now after experiencing two fires in that area will be doing all that we can to block this from happening!

A new nuclear facility will detract from cleanup of the already existing mess! The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

Kathy Sipowicz

Q2-1

Q2-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the CMRR-NF SEIS, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 LANL SWEIS, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign R

As an American citizen, I would like to voice my dissent concerning the NNSA's new plutonium pit facility being built in Los Alamos. *R-1*

The Alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. *R-2*

The costs to build a plutonium pit production complex are too high. The Department of Energy should consider simply upgrading old facilities for safety rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start. *R-3*

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. *R-4*

R-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

R-2 The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

R-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the CMRR-NF SEIS, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement

Campaign R (cont'd)

for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644).

Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

R-4 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Campaign R (cont'd)

Individuals submitting this campaign:

Virgil Alley
Frances Barber
Betsy Bauer
Sue Benedict
Barbara Clarke
Debra Cohn
Lisa Crawford
Margaret Doherty
Mark Donham
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Veronica Gonzalez
Charles Helt
Marla Herzog
Lisa Hey
Lana Kitchel
Joanne Luongo
Mary McCarthy
Barbara McKee
Kenneth Mosley
Frida Simms
Evelyn Singer
Ellen Sweetin
Gary Thaler
Sandra Uribe
Elizabeth Vienna
V. Walson

Campaign S

The CMRR Nuclear Facility proposed at Los Alamos Laboratory is dangerous environmentally and physically. As a voting citizen who worries about the next generation of Americans, I feel obligated to voice my discontent. ***S-1***

Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans. ***S-2***

The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building. ***S-3***

Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material. ***S-4***

S-1 NNSA acknowledges the commentor's concern about construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

S-2 As indicated in Chapter 2, Section 2.4, of the CMRR-NF SEIS, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the CMRR-NF SEIS present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

S-3 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the

Campaign S (cont'd)

CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS,* as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

S-4 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

Campaign S (cont'd)

Individuals submitting this campaign:

Terrie Bennett
Bruce Berlin
Gerald Bettice
Judith Bohler
Rachel Bolger
Kathy Coffman
Richard Comtois
Reem Fakhouri
Lillian Hanahan
Roberta Hobbs
Pyara Ingersoll
Marlene Juette
David Kelley
Maria Kindel
John Kitchel
Margaret Kuhlen
Val Laurent
Gabriela Maurier
Nancy F. Newcomb
Luise Perenne
Emily Pollom
Sarah Rabkin
Megan Rice
Marliss Rogers
Joe Salazar
Cecelia Samp
Hugh Sanborn
Crystal Schactell
Robin Schaef
Jef Schultz, M.T.S.
Matthew Swyers
Tom Talboom
Anne Toback
Kurt Valentine
Nicole Zahm

Campaign S

Individuals submitting "Campaign S" with additional comments

OBVIOUSLY during this crisis with the fire blazing in Los Alamos at the moment, the CMRR Nuclear Facility proposed at Los Alamos Laboratory is dangerous environmentally and physically. As a voting citizen who worries about the next generation of Americans, I feel obligated to voice my discontent and deep concern for the safety and health concerns that we are facing currently with this fire. ***S1-1***

Manufacturing plutonium pits is a dangerous, inhumane and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. This building of nuclear weapons could backfire on the purpose of them being built and harm it's own country's people!

Pyara Ingersoll

S1-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign T

I was just recently told about your new plutonium facility at the Los Alamos National Laboratory. I have listed a few different reasons I think this needs to be stopped. ***T-1***

Expanding the United States' nuclear weapons production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere. ***T-2***

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. ***T-3***

The Alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. ***T-4***

T-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

T-2 President Obama has stated a long-term goal of a world free of nuclear weapons, but also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

T-3 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

T-4 The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive

Campaign T (cont'd)

upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, Section 2.11, Alternatives Considered, of this CRD for additional information.

Campaign T (cont'd)

Individuals submitting this campaign:

Nancy Anderson
Marilyn Barden
Polly Boyajian
Pat Brunson
Martha W. Bushnell
Pamela Chamberlynn
Richard Clifford
Ann Dargis
Jeff Deal
Paul deLeon
Rachael DeLuca
Martha Eichler
Vernon Faulkner
Doug Franklin
Lisa Frye
Holly Graham
Ian Iverson
Audrey Keesing
John Lewallen
Barbara MacPhee
Kenneth Madore
Sue Mally
Carolyn Mann
MaryJo Matheny
Greta Meyerhof
Hugh Moore
Rebecca Rens
Megan Rice
Therese Rolland
Janalee Roy
Arlene Schutz
Kathryn Summers
Nat X. Vance
Margo VanEtten
Lois Way
Patricia Willis
Lisa Young

Campaign T

Individuals submitting "Campaign T" with additional comments

Spending $6 billion on a huge increase in plutonium production at this time of economic peril for so many in the U.S. is wasteful and dangerous. The U.S. is so strapped that many believe its debt ceiling must be raised; how can this expense be justified at this time?

President Obama has stated a goal of a world free of nuclear weapons. Increasing plutonium production only exacerbates the fear of other countries, which will want to react in kind, potentially accelerating an international arms race. With the building of a new plutonium pit facility, the US could possibly spur nuclear weapons development elsewhere. *T1-1*

Martha Eichler

T1-1 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Funding decisions on Federal programs and projects at LANL are made by Congress and the President. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF, nor does plutonium production occur at LANL. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons and Nuclear Technology and Section 2.4, CMR Mission, of this CRD for more information.

Campaign T

Individuals submitting "Campaign T" with additional comments

I was just recently told about your new plutonium facility at the Los Alamos National Laboratory. I couldn't believe what I was hearing: the U.S. increasing their nuclear bomb-making capacity? After touting a vision for global nuclear disarmament? Why would be spending money, time, and resources building a facility that would manufacture nuclear weapons parts? I am utterly opposed to the construction and operation of this facility for its intended purpose. Here are a few different reasons I think this needs to be stopped: ***T2-1***

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

Lisa Young

T2-1 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Campaign T

Individuals submitting "Campaign T" with additional comments

I was j... ...lutonium ... Los Alamos National Laboratory.

In light of the knowledge we have from Fukushima nuclear power plant meltdown, I think this is a terribly stupid and irresponsible project. *T3-1*

As a public health professional, I know that this is a ticking time bomb. You will kill people with radioactive particles in water and the air. You know it and I know it. Plutonium is a toxic choice. *T3-2*

I have listed a few different reasons I think this needs to be stopped.

Expanding the United States' nuclear weapons production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere. You are open to terrorist attacks, too.

Audrey Keesing

T3-1 NNSA acknowledges the commentor's concern that accidents similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of nuclear reactors and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

T3-2 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

Campaign U

The new development at the Los Alamos National Laboratory for plutonium pits is not in the best interest of our country. As a voting citizen, I feel as though there are a number of reasons to not complete this facility. *U-1*

Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material. *U-2*

A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution. *U-3*

The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility. *U-4*

U-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

U-2 NNSA notes that as indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

U-3 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

U-4 The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so.

Campaign U (cont'd)

This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, Section 2.11, Alternatives Considered, of this CRD for additional information.

Campaign U (cont'd)

Individuals submitting this campaign:

Meryl Adler-Waak
David Beam
Barbra Bearden
Deborah Beck
Jean Bergstrom
Lucille Bertuccio
Frances Burton
Pamela Coppi
David Cortez
Elliott Egan
Don Eichelberger
Victor Escobar
Jennifer Esperanza
Deborah Forbes
Frank and Joan Goebels
Barbara Hargrove
Harrison Heyl
Danny Hull
Maryanna Ireland
Judy Killion
Summer Lee
Dvid Linge
Alexa MacKinnon
Laurel McKeever
Reggie Melbrough
April Mondragon
Barry Moore
LeRoy Moore
Margo Morado
Jan Paley
Marie-Claude Perigon
John Pope
Kimi Quick
R. Salido
James R. Stewart, Jr.
Ann Thielen
Sally Thompson
Scott VanderMolen
Lonnie Ward
Susan Weller
Takayuki Yoshida

Campaign U

Individuals submitting "Campaign U" with additional comments

Especially in the wake of fires currently raging at its edge, the new development at the Los Alamos National Laboratory for plutonium pits is not in the best interest of our country. As a voting citizen, I feel as though there are a number of reasons to not complete this facility. ***U1-1***

Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material.

Don Eichelberger

U1-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign V

Dear Department of Energy,

I'm concerned about the construction of the CMRR plutonium reprocessing and storage facility in New Mexico. It will store six tons of the most highly toxic substance on Earth, plutonium, at the government's facility. ***V-1*** Second, the costs have ballooned by 1000%, from $600 million to $6 billion. ***V-2***

Finally, this facility can be used to reverse the program, from President Obama's pledge to end nuclear weapons, to produce as many as 80 nukes each year. This is going one step forward, 3 steps back, with plutonium—the most deadly, toxic substance in the world. ***V-3***

V-1 NNSA notes the commentor's concern about the construction of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

V-2 The cost to build and operate the proposed *CMRR-NF* is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

V-3 President Obama stated that the goal of a world free of nuclear weapons would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF, nor does plutonium production occur at LANL. Refer to Section 2.4, CMR Mission, of this CRD for more information.

Campaign V (cont'd)

Individuals submitting this campaign:

Edward Aguilar
Charles Andrade
Anne Barstow
Karen Barton
Mary Frances Baugh
Siri Beckman
Audrey Burns
Amy Bush
Betty Canderan
Reverend Ralph Garlin Clingan, Ph.D.
Jean Cooper
Charles Day
Cheryl Dzubak
Elizabeth S. Ettinghausen
Helen Evelev
Mary Fineran
C. Knuth Fischer
Agatha Fleming
James Fusco
Adrienne Gallagher
Irene Goldman
Susan Gordon
Marta Guttenberg
Evelyn Haas
Linda Hayes
Deborah Huber
Debbie Kavanagh
Anne Kruger
Cathy Leary
Charles Louis Lumpkin, Jr.
Eleanor Meegoda
Christine Modlish
Reverend Donald H. Moeser
Bob Moore
Ellen Norman
Paula Paul
Hazel Pelletreau
Charley Peterson
Richard Reichart
Katheleen Reidy
Rita Rofe
Marlena Santoyo
Jo Schlesinger
Walter Tsou
Ivan Winegar

Campaign V

Individuals submitting "Campaign V" with additional comments

Dear Department of Energy,

With the fire raging at the Lab's boundary, it is necessary to look at air and water contamination at the Lab as a result of the fire's long term impacts. *V1-1*

I'm concerned about the construction of the CMRR plutonium reprocessing and storage facility in New Mexico. It will store six tons of the most highly toxic substance on Earth, plutonium, at the government's facility. Second, the costs have ballooned by 1000%, from $600 million to $6 billion.

Finally, this facility can be used to reverse the program, from President Obama's pledge to end nuclear weapons, to produce as many as 80 nukes each year. This is going one step forward, 3 steps back, with plutonium—the most deadly, toxic substance in the world.

Susan Gordon

V1-1 A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. A summary of possible public health impacts resulting from the fire is included in Chapter 4, Section 4.6.1.3, of the *2008 LANL SWEIS* (DOE 2008a). As indicated in this section, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself. This section of the LANL SWEIS also discusses the Public Health Assessment (ATSDR 2006), for which the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed environmental monitoring data from 1980 to 2001 and concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future. The data considered in the ATSDR assessment included at least one full year of environmental monitoring results from the period following the Cerro Grande.

Campaign V

Individuals submitting "Campaign V" with additional comments

Dear Department of Energy,

I'm concerned about the construction on an earthquake fault line of the CMRR plutonium reprocessing and storage facility in New Mexico. We have recently seen how natural disasters can affect nuclear power plants, etc. in the case of Japan and the tsunami. *V2-1*

In addition, the CMRR plutonium reprocessing and storage facility will store six tons of the most highly toxic substance on Earth, plutonium, at the government's facility. Second, the costs have ballooned by 1000%, from $600 million to $6 billion.

Amy Bush

V2-1 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazards analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). The updated seismic hazards analyses provided a better understanding of the ground motion and seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a sizable earthquake event without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

NNSA notes the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

Campaign W

The draft SEIS is inadequate and technically indefensible for analysis of the risks of constructing and operating the proposed CMRR–Nuclear Facility with a capacity of quadrupling the current production of 20 plutonium triggers for nuclear weapons to up to 80 per year. I respectfully request that the DOE withdraw the draft CMRR–NF SEIS. ***W-1***

The National Environmental Policy Act (NEPA) requires a federal agency to provide a range of alternatives. DOE has not provided viable and workable alternatives. The "Modified CMRR–NF" alternative would allow construction with enhancements to address the growing number of seismic issues. There are two construction options: the "Deep Construction Option" and an inadequately analyzed "Shallow Construction Option," which do not meet NEPA requirements. Assumptions were made for key parameters in the analyses of the Shallow Option. The draft SEIS fails to offer and analyze realistic alternatives and therefore must be withdrawn. ***W-2***

The draft SEIS misrepresents the seismic hazard at the location of the proposed CMRR–Nuclear Facility. Intensive research by Robert H. Gilkeson, Registered Geologist, discovered that the draft SEIS misrepresents the possible ground motions by a large amount, omits important seismic information about the potential of active faulting close to the proposed site, and makes assumptions because the necessary field investigations have not been done.

There are seven key parameters that must be investigated in order to characterize the seismic hazard. They are the fault locations; the fault geometry; the direction of the slip on the faults; the maximum magnitude of an earthquake; the rate at which earthquakes reoccur on the faults; kappa, which is a key parameter for ground motions at specific LANL sites; and the shear velocity of the reference rock, which is dacite. In order to obtain this information, field studies must be conducted. ***W-3***

LANL scientists recommended these studies in three key seismic reports written in 1995, 2007 and 2009. But the recommended studies were not done. As a result, assumed values for the seven key parameters were inserted into computer programs to estimate the seismic hazard for the design of the proposed Nuclear Facility.

W-1 NNSA acknowledges the commentor's request to withdraw the *CMRR-NF SEIS* because it does not include an evaluation of increasing the pit production capacity. A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

W-2 Regarding the commentor's assertion that the *CMRR-NF SEIS* fails to offer and analyze realistic alternatives, CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare an SEIS when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA prepared the *CMRR-NF SEIS* specifically to address the changes in construction of the CMRR-NF based on additional seismic information. See Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for more information.

W-3 NNSA disagrees with the commentor's assertion that the *Draft CMRR-NF SEIS* misrepresents the seismic hazard for the proposed CMRR-NF and therefore needs to be withdrawn and field studies completed before a new NEPA document could be submitted to the public. In particular, the seismic information included in Chapter 3, Sections 3.5.1.3 and 3.5.1.4, of the *CMRR-NF SEIS* only summarize the very detailed and extensive seismic information that has been compiled for LANL. These sections draw heavily from the 2007 and 2009 PSHAs (LANL 2007, 2009), which were prepared by experts in seismic analysis using the ground motion prediction models as specified by NRC guidelines developed by the Senior Seismic Hazard Analysis Committee, "Recommendations for Probabilistic Seismic Hazards Analysis – Guidance on Uncertainty and the Use of

Campaign W (cont'd)

Further, both surface–rupturing synchronous and simultaneous earthquakes have occurred along the Pajarito Fault System. For these types of earthquakes, multiple synchronous earthquakes produce a greater seismic hazard than the simultaneous earthquakes. But the draft SEIS states the contrary that simultaneous ground–rupturing earthquakes produce a greater seismic risk. ***W-4***

These errors will ultimately result in the underestimation of the seismic hazard risk and the impacts to public health and the environment from releases from the proposed Nuclear Facility. The LANL scientists recommended that comprehensive field studies must be done to gather the necessary information about the seismic hazard. The comprehensive field studies must be done before a new EIS is submitted for public review and comment. ***W-5***

The draft SEIS demonstrates that DOE will continue to waste water for manufacturing nuclear weapons; create more radioactive, hazardous and toxic waste; spew pollution into the air; and exceed its existing electric power needs. ***W-6***

Further, I am in solidarity with Santa Clara Pueblo Tribal Resolution No. 08–16 in which the Pueblo opposes the expansion of plutonium pit production at LANL and making that production capacity permanent. ***W-7***

Experts" (NUREG/CR-6372; NRC 1997), and established methodology. These reports were reviewed and accepted by an external review panel, DOE, and DNFSB. Section 3.5 had been revised to more fully describe the seismic studies and seismic risk for the CMRR-NF.

The commentor cites seven key parameters: fault locations; fault geometry; direction of the slip on the faults; maximum magnitude of an earthquake; rate at which earthquakes reoccur on the faults; kappa; and shear velocity of the reference rock. While the 2007 PSHA study acknowledges that additional data in these areas would provide a more complete understanding of the seismic hazard at LANL, there was sufficient information to complete the study. The uncertainties associated with these areas has been adequately captured and bounded by the results of the study.

DOE has been proactive in the assessment of the potential seismic hazards at LANL and the resulting design ground motions for the CMRR-NF reflect the best science and engineering available to date. That said, as future studies are performed on the geology and seismology of LANL, there may be new information that becomes available that should be evaluated for potential impacts on the assessment of the seismic hazards. In the 2007 and 2009 LANL seismic hazard evaluations, which updated a 1995 evaluation, a concerted effort was made to properly capture the uncertainties in input parameters and, hence, it is anticipated that new information will not have a significant impact on the current assessment of the seismic hazard or design-basis earthquake ground motions for LANL.

In addition to the assessment of seismic hazards at the CMRR-NF site, site-specific geotechnical investigations have been completed for both the Shallow Excavation Option and the Deep Excavation Option. A geotechnical report prepared for the Shallow Excavation Option provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy, which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation (Kleinfelder 2007a). The report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter)). The proposed CMRR-NF would be designed and constructed in accordance with geotechnical

Campaign W (cont'd)

recommendations provided in the geotechnical report (Kleinfelder 2007a). Similarly, the Deep Excavation Option would be completed in accordance with recommendations resulting from the geotechnical reports (Kleinfelder 2010a, 2010b). See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

W-4 While the *CMRR-NF SEIS* does not discuss the difference in seismic risk between multiple synchronous earthquakes and simultaneous ground-rupturing earthquakes, the *CMRR-NF SEIS* accident analysis is based on information in the 2007 and 2009 PSHAs (LANL 2007 and 2009), which do address this issue. The 2007 PSHA included both simultaneous and synchronous earthquake rupture models in calculating design ground motions for TA-55. Simultaneous ruptures were slightly favored in the model with a weight of 0.6 because this is the standard model used in PSHA practice, and displacement data for the Pajarito fault system suggest this type of rupture occurred in the past. However, synchronous ruptures were also included in the analysis with a weight of 0.4 (LANL 2007).

The commentor appears to mistake earthquake magnitudes with hazard in that the PSHA did not calculate higher hazard for the simultaneous rupture model, but it did estimate slightly higher maximum magnitudes for the simultaneous rupture model. Preferred maximum magnitudes for both simultaneous and synchronous ruptures were estimated using the same general approach. It is somewhat counterintuitive that the slightly bigger simultaneous earthquake can result in a lower ground motion hazard, but the two synchronous earthquakes result in higher ground motions for nearby sites, particularly when the site is located between the rupturing fault segments, because energy is coming from two sources. Calculations were performed using techniques that meet SSHAC (NRC 1997) and DOE guidelines, and were reviewed and accepted by an external review panel, DOE, and DNFSB.

W-5 See the response to comment W-3.

W-6 NNSA has evaluated the environmental consequences of the proposed alternatives for construction and operation of the CMRR-NF. Chapter 3 of the *CMRR-NF SEIS* describes the affected environment and Chapter 4 describes the environmental consequences, for each resource area, of the proposed alternatives.

Campaign W (cont'd)

NNSA takes its resource stewardship and conservation responsibilities seriously and continues to work with Los Alamos County to implement water conservation measures. Chapter 3, Section 3.3.4, of the *CMRR-NF SEIS* describes current water use and the water utility infrastructure for LANL and the Los Alamos region. DOE is now a county water customer; as such, DOE is billed and pays for the water it uses in accordance with a water service contract. For water-use planning purposes, DOE has established a target ceiling quantity for water use equal to the water rights it still owns (542 million gallons [2,050 million liters] per year). In 2010, LANL used 412 million gallons (1,600 million liters) of water or about 76 percent of LANL's target ceiling quantity.

Water usage estimates related to the proposed CMRR-NF are included in Chapter 4, Sections 4.2.3 and 4.3.3. As discussed in these sections, the proposed CMRR-NF is expected to use up to about 5 million gallons (19 million liters) of water per year to support construction of the CMRR-NF. If built, the CMRR-NF combined with RLUOB would use up to 16 million gallons (61 million liters) of water per year to support facility operations. LANL water usage, including the proposed Modified CMRR-NF and RLUOB, is expected to remain within the Laboratory's water rights. See Section 2.10, Water Resources and Usage, of this CRD for more information.

Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives evaluated in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. As summarized in Chapter 2, Table 2–4, no air quality standards would be exceeded.

Electrical power impacts are addressed in Chapter 4, Section 4.2.3, 4.3.3, and 4.4.3, of the SEIS. As discussed in Chapters 2 and 4, options for adding to or modifying the existing electrical distribution infrastructure at LANL to support the requirements of the proposed CMRR-NF are analyzed in the SEIS (for example, adding an electrical substation to TA-50).

W-7 Comment noted. See response to comment W-1 regarding pit production levels.

Campaign W (cont'd)

Individuals submitting this campaign:

Chris Abrahamse
Subhankar Banerjee
Rachel Bliven
Yve-Alain Bois
Gail Buono
Teresa Candelaria
Leah Cantor
Mary Ray Cate
Emilio Chavez
Maria Chilton
Craig Collins
Patty Conway
Ray Corliss
Elena Crowley-Cornelas
Michelle Delon
Lisa Donahue
Jamie Duggan
Billie J. Eleu
Trevor Ellis
Susan Galheher
Gail Giles
Michael Gregory
Russell H.
Joe Hempfling
George MacArthur Henke
Robert Herrest
Scott Humason
Rohecke Keppel
Jan Hills Johnson
Stephan Kelly
Ian Kluhurt
Aurie Koffman
Gretchen Kuehn
Melanie LaPalama
Margo Ladwig
Laure Liverman
Annette Madrid
Colin Mickle
Barry Miller
Anna Molitor
Tess Moore
Aparna Mulberry
Pat Murphy
Martha A. Orozco
Sheridan Phillips
Joe Puleo
Dixie Pomerat
John Quintana
Perry Redondo
S. Reiber
Gail Rekens
Reverend Judy Romero-Oak
Carl Rosenberg
Ramona Ruark
Jarrod Scarbrough
Barbara Sinha
Louis Skogen
Richard Stangarone
Catherine Steinborn
M. Sycamore
Susan Tarman
Grant Taylor
Rohecke J. Tennie
Julie W.
Morgana Washington
Marguerite Wilson
Romany Wood
June Zuehlsdorff
signature illegible (2)

Campaign W

Individuals submitting "Campaign W" with additional comments

... al Polic... ...A) requires a federal agency to provide a range of alternatives. DOE has provided two alternatives: A "Deep Construction Option" and an inadequately analyzed "Shallow Construction Option," which do not meet NEPA requirements. And these alternatives stack the deck in favor of the Deep Option because the necessary work has not been done to present the public health and environmental impacts from the Shallow Option. ***W1-1***

* **The draft SEIS misrepresents the seismic hazard at the proposed location of the Nuclear Facility.** For example, the 2007 Probabilistic Seismic Hazard Analysis reports a vertical peak ground acceleration (PGA) of 0.6 g, but the draft SEIS reports the vertical PGA at 0.3 g. In addition for multiple surface-rupturing earthquakes, synchronous earthquakes produce a greater seismic hazard than multiple simultaneous earthquakes. But the draft SEIS **states the contrary** that simultaneous ground-rupturing earthquakes produce a greater seismic risk. ***W1-2***

Joe Hempfling

W1-1 The concerns expressed by the commentor about the Shallow Excavation Option not being evaluated as thoroughly as the Deep Excavation Option appear to refer to statements in Chapter 2, Section 2.6.2.1, of the *Draft CMRR-NF SEIS* indicating that there was more uncertainty in the design of the Shallow Excavation Option because that design had not reached the same level of maturity as the Deep Excavation Option. In 2011, a review of the requirements for the design of the CMRR-NF identified an opportunity to reduce the amount of additional excavation and concrete fill required for the Deep Excavation Option by raising the bottom of the basemat to near the original design elevation. The overall building height would remain the same, but the top of the roof would be higher above ground than it was in the conceptual and preliminary design. At the current level of design maturity, this approach, known as the Shallow Excavation Option, appears to provide some reductions in construction impacts and cost without affecting other building design requirements. Both construction options require the same sets of safety controls and are expected to remain close in offsite environmental consequences as shown in the analyses contained in this SEIS. At this time, both construction options are being considered by NNSA. As the design studies continue and more details become available, one option or the other may be judged to have significant advantages in the time and/or cost expected for executing the excavation phase of construction that will facilitate NNSA's selection of a preferred construction option. Whichever alternative or option is selected, the CMRR-NF must meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002a). As indicated in the *CMRR-NF SEIS*, the Deep Excavation Option would have greater impacts from construction than the Shallow Excavation Option, but the operational impacts would be the same for either option.

W1-2 Based on an apparent typographical error in the 2007 PSHA Executive Summary, the vertical peak ground acceleration for the CMRR-NF was incorrectly cited as 0.3 *g* instead of 0.6 *g* in the SEIS. This error has been corrected. This

Campaign W

Individuals submitting "Campaign W" with additional comments

typographical error in the Executive Summary of the PSHA is not reflective of information presented elsewhere in the PSHA and was not used in the design of the proposed Modified CMRR-NF.

Campaign W

Individuals submitting "Campaign W" with additional comments

I am opposing the proposed CMRR-Nuclear Facility because I believe it will have grave ecological and human health implications for my home state—local indigenous population from the Santa Clara, San Ildefonso, Cochiti and other pueblos that surround the lab, and to my own health where I live in Santa Fe. The project will also have great negative impacts on the birds, fish and animals that make their home in this desert environment. *W2-1*

The draft SEIS must be withdrawn as it does not take into account both the seismic risks as well as the climate change impacts predicted for the American southwest. *W2-2*

Subhankar Banerjee

W2-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF and concerns about potential ecological and human health impacts in New Mexico, in particular for those who live as close to LANL as Santa Fe and Native American populations in the vicinity of LANL. The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. The potential environmental impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10, of the *CMRR-NF SEIS*. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives, while Section 4.2.7, 4.3.7, and 4.4.7 address the possible impacts on ecological resources.. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

W2-2 NNSA acknowledges the commentor's concerns that climate change may increase the frequency and intensity of wildfires and decrease the availability of water. NNSA disagrees with the commentor's assertion that the *Draft CMRR-NF SEIS* needs to be withdrawn because it does not account for seismic risks and the effects of climate change in the American Southwest. Chapter 3, Section 3.4.4, of the *CMRR-NF SEIS* has been revised to include a description of the types of environmental changes that could occur in the southwestern United States due to climate change. A discussion of potential impacts that could result at LANL from climate change and that addresses water usage has been added to Chapter 4, Section 4.1. See the response to Comment W-3 regarding seismic concerns.

Campaign W

Individuals submitting "Campaign W" with additional comments

...gy Researc...
Replacement (CMRR) Project at the Los Alamos National Laboratory (LANL)

Dear Mr. Tegtmeier:

I am writing today to register my opposition to the proposed CMRR facility at Los Alamos, NM. **W3-1**

The draft SEIS is inadequate and technically indefensible for analysis of the risks of constructing and operating the proposed CMRR–Nuclear Facility with a capacity of quadrupling the current production of 20 plutonium triggers for nuclear weapons to up to 80 per year. I respectfully request that the DOE withdraw the draft CMRR–NF SEIS.

...oppose the expansion of plutonium pit production at LANL and making that production capacity permanent.

The world already has enough plutonium to annhilate every country on the face of the map, and all of the life that lives on the lands, and most if not all life in the waters of our Earth. To what real purpose is production of another facility to create plutonium buttons for weapons, please? It is time we stop this insane dash to the ultimate finish line! **W3-1 cont'd**

Morgana Washington

W3-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMMR-NF and to proliferation of nuclear weapons. President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

See the response to Comment W-1 regarding pit or "plutonium button" production.

Campaign W

Individuals submitting "Campaign W" with additional comments

I am appalled that the US Government is going to spend $$$BILLIONS to build a new plutonium facility at Los Alamos. This is a waste of US Taxpayer money and a security threat which we do not want. There MUST be better ways to waste US Taxpayer money and to increase the already staggering US Federal Debt. The rationale for this plutonium facility was concocted many years ago using outdated concepts of national security. Since that time we have learned that every ounce of plutonium manufactured in the world is a threat to world security and that all efforts must be made to stop production of plutonium and other dangerous nuclear materials. *W4-1*

The proposed facility is even more disturbing given that it will be located in a more populated area subject to more recent discoveries of seismic activity and subject to very destructive wildfires which have proved to be almost impossible to control. *W4-2*

The draft SEIS is inadequate and technically indefensible for analysis of the risks of constructing and operating the proposed CMRR–Nuclear Facility with a capacity of quadrupling the current production of 20 plutonium triggers for nuclear weapons to up to 80 per year. I respectfully request that the DOE withdraw the draft CMRR–NF SEIS.

George MacArthur Henke

W4-1 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. The cost to build and operate the proposed CMRR-NF is also not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA acknowledges the commentor's concerns regarding national security. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

W4-2 NNSA acknowledges the commentor's concerns regarding seismic issues and the potential impacts of wildfires at LANL. Seismic issues have been addressed in the response to Comment W-3. Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign X

Mr. John Tegtmeier, CMRR-NF SEIS Document Manger, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

1. A Complete, New Environmental Impact Statement is Needed, Not A Supplemental Environmental Impact Statement. The original Environmental Impact Statement in 2004 assessed a building designed to withstand only mild seismic events. A 2007 updated seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. Los Alamos National Lab sits between the Rio Grande rift and the volcanic Jemez Mountains in a seismic fault zone. Only a full Environmental Impact Statement can adequately study the full consequences of increased possibility seismic events might have on the proposed bomb plant. ***X-1***
   - A new business case is needed. Decisions made in 2004 EIS are outdated. Choice of NF is based on 2007 costs before NF ballooned to $6B.
   - The wrong Question is being asked. Should be - What is the most efficient way to take care of NNSA's stockpile needs? Not - What size and where shall the NF be built?
2. Real Alternatives Must Be Considered in the Supplemental Environmental Impact Statement. DOE must develop and consider new alternatives, including a true "No Action" alternative--not building the Nuclear Facility; and upgrading the existing plutonium production building. ***X-2***
   - Two of the Alternatives given in this draft are so bad that they cannot really be considered alternatives
   - The current "No Action" Alternative is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 CMRR EIS. But based on new information learned since 2004, the 2004 CMRR-NF would not meet seismic standards to safely conduct mission work. "Therefore, the 2004 CMRR-NF would not be constructed". (Pg. S-8)
   - So this is not really an alternative.
   - The Continued Use of CMR Building Alternative In this current EIS states: Do not construct a replacement facility to house the capabilities planned for the CMRR-NF, but continue to perform operations in the CMR Building at TA-3, with normal

X-1 NNSA notes the commentor's statements that a new environmental impact statement is required, and not an SEIS. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. In making this determination, NNSA was fully aware of the updated seismic hazards analyses of the LANL region (LANL 2007). The analyses were updated again in 2009 (LANL 2009). These updated seismic hazards analyses provided a better understanding of the ground motion and seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements necessary for constructing the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a sizable earthquake event without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely.

X–2 As described in Chapter 2, Section 2.6, of the 2003 *CMRR EIS*, a number of alternatives were considered and dismissed from detailed study. These include removing the CMR capabilities from LANL, alternative LANL sites for the CMR capability, and upgrading the existing CMR Building. NNSA did not revisit these decisions in the *CMRR-NF SEIS*. These and other alternatives considered, and dismissed are addressed in detail in Chapter 2, Section 2.7 of the *CMRR-NF–SEIS*. In addition, the 2008 *Final Complex Transformation SPEIS* evaluated options for relocating the CMR functions to other DOE facilities, including

Campaign X (cont'd)

maintenance and component replacements at the level needed to sustain operations for as long as feasible. Certain operations would be restricted. Administrative and radiological laboratory operations would take place in RLUOB at TA-55.

But this alternative does not completely satisfy NNSA's stated purpose and need to carry out operations at a level to satisfy the entire range of DOE and NNSA mission support functions. (Pg. S-19)

- So this is not really an alternative, either.
- That leaves only the Modified CMRR-NF Alternative as the only real alternative. Under the Modified CMRR-NF Alternative, which is NNSA's Preferred Alternative, NNSA would construct the new CMRR-NF at TA-55 next to the already constructed RLUOB, with certain construction enhancements and additional associated construction support activities.
- Obviously, two of the alternatives are unworkable, which stacks the deck in favor of the preferred alternative.

X-2 cont'd

3. This draft SEIS should be withdrawn until the details of the Seismic Risks are better understood.
   - The cost-saving Shallow Option, in which the foundation would be constructed in a geologic layer above a poorly welded tuff layer, is not a mature concept, and it is not yet known if this option is safe. The draft SEIS fails to accurately analyze how impacts to the environment from this option may be different.
   - There are more new seismic investigations currently underway at the Lab. This draft SEIS must be withdrawn and rewritten after the results of these new investigations are known. Proceeding with design before seismic risks are better known will only repeat the process that led to the need for this Supplemental EIS.

X-3

4. A New Nuclear Facility Will Detract from Cleanup of the Existing Mess. DOE made a commitment to clean up the legacy waste at Los Alamos Lab by 2015.

   Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant, which will only add to the pollution.

X-4

NNSS, the Pantex Plant, the Savannah River Site, and the Y-12 Security Complex (DOE 2008b). In the ROD for the *Complex Transformation SPEIS* (73 FR 77644) NNSA decided to construct and operate the CMRR-NF at LANL. DOE is not revisiting these decisions in the *CMRR-NF SEIS*.

The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

X-3 NNSA notes the commentor's position that the SEIS should be withdrawn. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations,

Campaign X (cont'd)

- Materials Disposal Area C (MDA C), a large chemical waste dump, is located in the middle of the proposed construction support areas.

  Large pore gas contaminant plumes exist under areas where construction offices and warehouses are planned. Cleanup at MDA C must be completed before any new construction.

X-4 cont'd

5. The Costs to Build a Plutonium Pit Production Complex Are Just Too High. The total original estimate for constructing the new nuclear weapons complex at Los Alamos National Laboratory was approximately $600 million in 2004. The current estimate is $5.8 billion. DOE must analyze whether this growing price tag is too high and examine simply upgrading the existing facilities to address seismic concerns and worker safety would cost less.

X-5

6. The US does not need 80 new plutonium pits per year. DOE must conduct a "capacity study" to determine whether the existing facilities can be used instead of building the proposed NF, which would increase pit-manufacturing capacity to at least 80 per year. Existing facilities have sufficed since 1999 when DOE limited plutonium pit manufacturing to 20 per year.

   - So what are these needed new or expanded capabilities, if indeed we are seeking a future world free of nuclear weapons? If these needs exist, NNSA must explain why plutonium pit production must be expanded? If expanded production is not needed, then why is the CMRR-Nuclear Facility needed?

X-6

Just as new seismic information has forced a re-evaluation of the construction, new cost information must force a re-evaluation of the cost.

X-5 cont'd

The No-build alternative that was offered in the scoping must be reconsidered.

- Do not construct a replacement facility to house the capabilities planned for the CMRR-NF. Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.

X-2 cont'd

no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

X-4 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

As stated in Chapter 4, Section 4.3.12, Waste Management and Pollution Prevention, of the *Draft CMRR-NF SEIS*, There are known potential release sites located within the affected technical areas (for example, Material Disposal Area C in TA-50), and the potential for contact with contaminated soil or other media

Campaign X (cont'd)

would be appropriately considered throughout the construction process. Proper precautions would be taken as needed to minimize the potential disturbance of potential release sites. As needed, actions such as appropriate documentation and contaminant removal would be taken by LANL Environmental Restoration staff in accordance with the 2005 Consent Order and other applicable requirements.

As discussed in Chapter 2, Section 2.6.2.1, the activities included in TA-50 in the proposed action would involve use of the parking lot that was developed during construction of RLUOB, and the construction of a small stormwater detention pond and possible construction of an electrical substation across Pajarito Road from Material Disposal Area C. Also, there is the potential for temporary power to be run through TA-50 alongside Pajarito Road, but outside of Material Disposal Area C. None of these activities would infringe upon Material Disposal Area C and no excavation would take place that could affect the area down slope from Material Disposal Area C.

X-5 As stated in the response to Comment X-1, the cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. Also, as discussed in the response to Comment X-2, NNSA considered upgrading the existing CMR Building and determined that it could not fulfill the stated purpose and need.

X-6 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Campaign X (cont'd)

Individuals submitting this campaign:

Buenomediation
Charles Cooper
Jeffrey Creque
Mia Curcuruto
Amy Duke
Gail Susan Gordon
Edward William Hirsch
Juliet Carpenter
Kevin Kamps
Cheryl Kozanitas
John Lumiere-Wins
Shannon Lunsford
Peggy Magilen
Nancy Michels
Lorene Mills
Anthony Phillipson
Erik Ranger
Laura Stewart
Ryan Toups
Pamela Vasquez
Sarah Velody
Ian Wilson
Louise Wynn

Campaign X

Individuals submitting "Campaign X" with additional comments

Simply put, CMRR is a huge new plutonium facility for expanded nuclear weapons production.

CMRR's first phase, the 185,000 square-feet "Radiological Laboratory, Utility and Office Building" (RULOB or "Rad Lab"), was completed in September 2009, costing $400 million (including equipment), but will not handle large quantities of "special nuclear materials," like plutonium. For that purpose, the CMRR's final phase is the proposed "Nuclear Facility." The Nuclear Facility (NF) will provide crucial "materials characterization" and "analytical chemistry" in direct support of plutonium pit production. If built, the Nuclear Facility wi ll be located next door to Plutonium Facility-4 (PF-4), LANL's existing pit production facility, and the two will be physically linked to each other via underground tunnel. The NF will also supply PF-4 and LANL's plutonium complex with a vault to store up to six metric tons of plutonium. As such the NF will be the keystone to an expanded plutonium complex at LANL capable of quadrupling the current production capability of 20 pits per year to up to 80. Design of the Nuclear Facility has already cost nearly a half billion dollars and is still only ~50% complete. Because of the recognition of greater seismic risks and a proposed 50% increase in size, NNSA was compelled by citizen pressure to prepare a supplemental EIS, which was released on April 22. ***X1-1***

The public comment period will be open through June 28, 2011. You may use this form to submit comments to the Document Manager automatically via email.

CMRR-NF SEIS Comment Text:

Please feel free to adjust the text as needed.

Mr. John Tegtmeier, CMRR-NF SEIS Document Manager, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

1. A Complete, New Environmental Impact Statement is Needed, Not A Supplemental Environmental Impact Statement. The original Environmental Impact Statement in 2004 assessed a building

Juliet Carpenter

X1-1 The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. As indicated in Chapter 1, Section 1.3, of the *CMRRNF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRRNF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

See the response to Comment X-6 regarding pit production levels.

Campaign X

Individuals submitting "Campaign X" with additional comments

The No-build alternative that was offered in the scoping must be reconsidered.

- Do not construct a replacement facility to house the capabilities planned for the CMRR–NF. Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.

I am also concerned about the wildfires here in New Mexico. They are currently raging and headed in the direction of the labs. Public safety is at risk. Please take this into consideration. These plants must be stopped. ***X2-1***

Nancy Michels

X2-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign X

Individuals submitting "Campaign X" with additional comments

recon

• Do not construct a replacement facility to house the capabilities planned for the CMRR–NF. Continue to perform analytical chemistry, material characterization, and actinide research and development activities in the CMR Building, making the extensive facility upgrades needed to sustain CMR programmatic operations for another 20 to 30 years.

I believe this is a stupid idea. What makes sense, with global warming and after the Fukushima disaster, is renewable energies and cold fusion. Why not spend the monies investing in something with a future that is not a disaster for Life on Earth? That makes a lot more sense to me. ***X3-1***

John Lumiere-Wins

X3-1 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

Campaign X

Individuals submitting "Campaign X" with additional comments

Mr. [illegible] Docu[illegible]ger, USDOE, NNSA, Los Alamos Site Office, 3747 West Jemez Rd., Los Alamos, NM 87544

THE LAS CONCHAS WILDFIRE IS PROOF THAT THE CMRR PROJECT SHOULD NOT GO AHEAD BECAUSE IT IS TOO VULNERABLE TO WILDFIRE. ALSO: ***X4-1***

1. A Complete, New Environmental Impact Statement is Needed, Not A Supplemental Environmental Impact Statement. The original Environmental Impact Statement in 2004 assessed a building designed to withstand only mild seismic events. A 2007 updated seismic hazards analysis showed a potential huge increase in seismic ground motion and activity. Los Alamos National Lab sits between the Rio Grande rift and the volcanic Jemez Mountains in a seismic fault zone. Only a full Environmental Impact Statement can adequately study the full consequences of increased possibility seismic events might have on the proposed bomb plant.

Sarah Velody

X4-1 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

Campaign X

Individuals submitting "Campaign X" with additional comments

NM c

By way of introduction, I would like to point out that Earth Day (April 22) was quite an ironic date to release the SEIS for the CMRR-NF. Plutonium is perhaps the most hazardous substance human beings have ever created. Plutonium's forever hazard (Pu-239, for example, has a hazardous persistence of 240,000 years) in even microscopic quantities (a small speck in the human lung will initiative cancer), as well as the peril represented by the continued and prolonged presence of nuclear weaponry, put the Earth and all living things in peril. X5-1

1. A Complete, New E... Impact Statement is Needed. Not A

should ...itted, new ones should not ...icated.

In closing, I must point out another piece of ironic timing. The deadline for public comments on this SEIS on June 28th is the third day of a very dangerous wildfire threatening Los Alamos National Lab, the Las Conchas Fire. It is, of course, a sobering reminder of the May 2000 2000 Cerro Grande Fire. Given these two potentially catastrophic fires, how can LANL considering even more plutonium activities on site?! LANL should be cleaned up, not built up! As Citizens Concerned for Nuclear Safety (CCNS) warned just yesterday, "Our main concern is that the Las Conchas fire is about 3 1/2 miles from Area G, the dumpsite that has been in operation since the late 1950s/early 1960s. There are 20,000 to 30,000 55‐gallons drums of plutonium contaminated waste (containing solvents, chemicals and toxic materials) sitting in fabric tents above ground. These drums are destined for WIPP." The priority at LANL should be clean up, not build of new facilities such as the CMRR and its NF. X5-2

How can LANL consider storage and processing of 6 tons or more of ultra-hazardous plutonium in an area so demonstrably at risk of fire, not to mention seismic activity?

Finally, to drive home the risks of such fires, I am providing to you a link, http://www.beyondnuclear.org/nuclear-weapons/2011/6/27/los-alamos-nuclear-weapons-lab-threatened-by-wildfire.html, which shows an image of the smoke plume -- visible from outer space, and photographed by satellite -- covering several states downwind, very likely contaminated with radioactive contamination from LANL's Cerro Grande fire in 2000. Such risks are unacceptable. Please do not build the CMRR-NF.

Kevin Kamps

X5-1 Comment noted.

X5-2 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF.

The waste storage domes in TA-54 are not the subject of the *CMRR-NF SEIS*. However, NNSA has taken actions to mitigate the risks of a wildfire on the domes. In 2000, the Cerro Grande fire burned a heavily forested canyon area to within about 0.75 miles (1.2 kilometers) of the waste storage domes, but none were burned and there were no radiological releases from the domes. The Las Conchas fire reached the southern border of LANL, but did not get within 2 miles (3.2 kilometers) of the domes. Additional fuel reduction has been conducted since the Cerro Grande fire, both of the vegetation surrounding the TA-54 area and within the domes themselves (for example, wooden pallets have been replaced with metal pallets), to further decrease the potential for a waste storage dome fire occurring as a result of a site wildfire. Furthermore, the stored transuranic waste referred in the comment is being recovered and shipped to WIPP for disposal, thus, further reducing wildfire risks as the shipments continue.

A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. A summary of possible public health impacts resulting from the fire is included in Chapter 4, Section 4.6.1.3, of the 2008 *LANL SWEIS* (DOE 2008a). As indicated in this section, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk

Campaign X

Individuals submitting "Campaign X" with additional comments

over the risk from the fire itself. This section of the *LANL SWEIS* also discusses the *Public Health Assessment* (ATSDR 2006), for which the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed environmental monitoring data from 1980 to 2001 and concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future. The data considered in the ATSDR assessment included at least one full year of environmental monitoring results from the period following the Cerro Grande fire.

Campaign Y

To: Mr. John Tegtmeier, CMRR-NF
SEIS Document Manager
NNSA Los Alamos Site Office
3747 West Jemez Road
TA-3 Building 1410
Los Alamos, NM 87544
Re: CMRR-NF SEIS Comment
Date: June 24, 2011

Dear Mr. Tegtmeier:

Y-1

I oppose the construction of the CMRR Nuclear Facility at the Los Alamos National (LANL) for the following reasons:

ENVIRONMENTAL ISSUES

The Nuclear Facility is designed to have the capacity to prepare plutonium for up to 80 new pits (triggers for nuclear weapons) per year. It would store six metric tons (about 13,200 pounds) of plutonium, a very potent carcinogen.

Y-2

LANL sits on a windswept mountain top, in a seismic area, where wildfires and contaminated run-off continue to threaten the health of all who live downwind and downstream from LANL. Plutonium and other radionuclides were found in organic gardens downwind from Los Alamos after the 2000 Cerro Grande fire. There is increasing evidence of groundwater pollution from the Lab, with more "expected over a period of decades to centuries as more of the contaminant inventory reaches the water table," according to a 2005 LANL report. Radionuclides have been detected in the Rio Grande, the source of drinking water for many citizens living downstream from the Lab.

Y-1 cont'd

Plutonium has a half-life of 24,000 years (meaning it is half as potent by then). So any pollution will continue for many, many thousands of years. In addition to cancer, radioactive materials can cause serious birth defects. This disproportionately impacts New Mexico's minority populations, especially Native and Hispanic, making it an issue of environmental injustice.

Y-3

The Department of Energy (DOE) estimates that the maximum amount of water needed for construction would be 4.6 million gallons per year. However, an independent analysis figured that 6.75 million gallons of water would be used in mixing 225,000 cubic yards of concrete planned under the structure to meet safety requirements due to potential seismic hazards (and we are not convinced that will protect against a major earthquake). Another 3.9 million gallons of water would be needed for the additional 130,000 cubic yards of structural concrete.

For each year of operation after construction, DOE estimates that the Nuclear Facility would use 16 million gallons per year. We live in a dry semi-desert climate getting ever more dry with global warming, and we cannot afford to waste such a huge amount of water. Better not to put a nuclear facility in an earthquake prone zone.

Y-4

Taos citizens, along with Senator Udall and Representative Lujan, requested a hearing for public

Y-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF, position regarding plutonium pit production levels and concern regarding the hazards of plutonium. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

Y-2 A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. A summary of possible public health impacts resulting from the fire is included in Chapter 4, Section 4.6.1.3, of the 2008 *LANL SWEIS* (DOE 2008a). As indicated in this section, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air

Campaign Y (cont'd)

comment in their town so they wouldn't have to travel through the canyon to get to a hearing in other locales, but the National Nuclear Security Administration told Sen. Udall that the NNSA expected no safety consequences for Taos from operating the CMRR Nuclear Facility. Yet the smoke carrying plutonium and other radionuclides reached Taos during the 2000 Cerro Grande Fire at LANL. And they received smoke from the current Wallow Fire in AZ 200 miles away. **Y-4 cont'd**

Producing more plutonium pits will create more waste. We already have 700,000 metric tons of depleted uranium waste from weapons production. Depleted uranium has a half-life of 4.5 billion years. So far, there is no viable plan for storing this waste. Because LANL did not keep good records in the early years of operation, an unknown amount of tons of radioactive waste is stored in Area G at LANL, and tritium is releasing into the air. Our environment and our health cannot tolerate any more radioactive waste.

The existing waste at LANL needs to be cleaned up before any new radioactive or toxic waste is generated there. DOE made a commitment to clean up certain legacy waste sites at LANL by 2016 when it signed the Consent Order with the New Mexico Environment Dept. on March 1, 2005. Yet the House Appropriations Committee has recommended cutting the cleanup budget for LANL by $175 million (almost half of the request to meet the need). Taxpayer funds needs to go first for cleanup, instead of cutting domestic services to fund a $6 billion project when most U.S. citizens don't want to fund any more nuclear weapons. **Y-5**

SEISMIC HAZARDS

The Los Alamos National Lab (LANL) is situated over a 29-mile-long fault system, where several faults converge. The original 2004 Environmental Impact Statement for the CMRR Nuclear Facility responded to a possible mild cosmic event. But a 2007 study calculated a 50 percent increase in the potential seismic risk across the LANL site. As a result of a new study mapping earthquake danger in the area, the Defense Nuclear Facilities Safety Board, in a unanimous decision, reported that there is a 5% chance of a big earthquake during the 50-year lifetime of the proposed Nuclear Facility, and that the potential fatal public doses from a plutonium release during earthquake-induced fires have been estimated to exceed DOE guidelines by more than 100-fold.

Registered geologist Robert H. Gilkeson reported "The new knowledge of the latent earthquake danger at the location of Los Alamos NM is evidence that the Department of Energy has made a mistake to select LANL as the nation's primary plutonium facility for nuclear weapons." **Y-6**

Instead of accepting the fact that a nuclear facility should not be built in a dangerous seismic zone, LANL is attempting to make the facility strong enough to withstand a strong earthquake by proposing to excavate 225,000 cubic yards of earth and fill the hole with concrete. The huge concrete slab would still be situated over poorly welded tuff, and I am not convinced that the slab would not shift during a major earthquake. Concerns about earthquake safety need to be worked out before costly construction begins.

SAFETY AND SECURITY

IN 2004 nuclear operations at Los Alamos were suspended for six months due to grave safety concerns, and yet long-standing safety issues remain unresolved.

during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself. This section of the *LANL SWEIS* also discusses the *Public Health Assessment* (ATSDR 2006), for which the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed environmental monitoring data from 1980 to 2001 and concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future. The data considered in the ATSDR assessment included at least one full year of environmental monitoring results from the period following the Cerro Grande fire.

The Albuquerque water utility has monitored the Rio Grande by collecting and testing samples at various sites from the Heron Reservoir along the river to Albuquerque for metals, minerals, nutrients, organic substances, and radionuclides (City of Albuquerque 2006). The river water meets EPA drinking water standards for all of these substances (specifically, the levels of radionuclides are far below the EPA standards).

Y-3 NNSA takes its resource stewardship and conservation responsibilities seriously and continues to work with Los Alamos County to implement water conservation measures. Chapter 3, Section 3.3.4, of the *CMRR-NF SEIS* describes current water use and the water utility infrastructure for LANL and the Los Alamos region. For water-use planning purposes, DOE has established a target ceiling quantity for water use equal to the water rights it still owns (542 million gallons [2,050 million liters] per year). In 2010, LANL used 412 million gallons (1,600 million liters) of water or about 76 percent of LANL's target ceiling quantity.

Water usage estimates related to the proposed CMRR-NF are included in Chapter 4, Sections 4.2.3 and 4.3.3. As discussed in these sections, the proposed CMRR-NF is expected to use up to about 5 million gallons (19 million liters) of water per year to support construction of the CMRR-NF. If built, the CMRR-NF combined with RLUOB would use up to 16 million gallons (61 million liters) of water per year to support facility operations. LANL water usage, including the proposed Modified CMRR-NF and RLUOB, is expected to remain within the Laboratory's water rights. See Section 2.10, Water Resources and Usage, of this CRD for more information.

Y-4 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos

Campaign Y (cont'd)

One example: the Institute for Energy and Environmental Research has found that about 300 kilograms of plutonium (enough to make 60 bombs) is missing from LANL's nuclear materials records. **Y-7**

Former Pennsylvania State Police Commissioner Glenn Walp was hired to investigate lapsed security after 9/11. Walp uncovered the theft or loss of over $3 million in taxpayer property, including nearly 400 computers that potentially housed nuclear secrets. In his recent book Implosion at Los Alamos, Walp describes a lax security culture of corruption, crime, coverups and whistleblower retaliation, where the Lab's "image" is more important than safety or security. **Y-8**

And now, in order to cut costs, Los Alamos is considering the elimination of some of the facility's fire suppression systems and ventilation equipment intended to prevent plutonium from leaking in the event of an earthquake and fire! **Y-9**

The Los Alamos National Lab cannot be trusted to safely and securely handle six metric tons of plutonium.

MORE PITS ARE NOT NEEDED

The Chemistry and Metallurgy Research Replacement (CMRR) Nuclear Facility is designed to have the capacity to produce up to 80 new plutonium pits per year. Some LANL officials claim that the Nuclear Facility will not really produce the pits -- so why have the capacity to do so? **Y-1 cont'd**

When Senator Bingaman legislatively required an independent expert study on the aging of plutonium pits, the 2006 JASON study concluded that the thousands of existing pits not only don't deteriorate with age, but actually improve with age, up to 85-100 years. The oldest existing pits are less than 30 years old, so they will remain stable for at least another 55-70 years, and newer ones even longer. We obviously don't need any more.

That makes us suspect that the new pits are really for new-design weapons. The DOE wants to "modernize" the nuclear weapons complex, including developing smaller and more powerful nuclear weapons. Congress denied funding for the Reliable Replacement Warhead, so now LANL is working on other designs, and one is a design that is 30 times more powerful than the one dropped on Hiroshima. Why do we need a bomb more powerful than Hiroshima? What we have is already more than sufficient. Most U.S. citizens have higher priorities for our tax dollars. **Y-10**

TREATIES AND PROLIFERATION

The United States signed the Nuclear Non-Proliferation Treaty (NPT) in 1968. Article VI of the NPT commits the signers to work toward nuclear disarmament. We are violating the treaty when we produce more nuclear weapons.

Violating treaties violates our own Constitution. Article 6 states that all Treaties made "shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby."

The CMRR Nuclear Facility sends the message to the rest of the world that the United States is not serious when we talk about nonproliferation and arms reduction. If we produce more weapons, how can we convince other nations to disarm? They are more likely to feel the need to **Y-11**

is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period. See response to Comment Y-2 for information regarding the Cerro Grande wildfire.

Y-5 The depleted uranium mentioned by the commentor is not stored at LANL and is not within the scope of the *CMRR-NF SEIS*. Cleanup of Material Disposal Area G is being performed in accordance with the Consent Order. NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Radioactive waste generated by construction and operation of the proposed CMRR-NF would be managed through the LANL waste management program, as described in Chapter 3, Section 3.12.4.1, Solid Radioactive Waste Management. Low-level and mixed low-level radioactive waste would be disposed of off site at either the Nevada National Security Site or the commercial facility in Clive, Utah. Transuranic waste would be disposed of at the Waste Isolation Pilot Plant in New Mexico. Impacts associated with management and transport of these wastes are evaluated in the waste management and transportation sections of Chapter 4.

Y-6 Chapter 3, Section 3.5, of the *CMRR-NF SEIS* describes the geologic setting of LANL, and was revised in the *Final CMRR-NF SEIS* to improve the discussions

Campaign Y (cont'd)

build their own nuclear arsenal, thus increasing international nuclear tensions.

The Los Alamos Lab has tremendous expertise that could be used to work for nonproliferation, securing the dangerous materials around the world, and cleaning up contaminated sites. **Y-11 cont'd**

ECONOMY AND JOBS

The estimated cost of the CMRR Nuclear Facility has ballooned from its original $300 million in 2003 to possibly $5.8 billion now, almost 20 times more, and the project's federal managers have acknowledged that they have no firm idea about the final price tag. Final estimated costs costs won't be known until the design is completed in 2015, and are listed as "to be determined." These costs do not include decontamination and cleanup in the future. How much higher will it go? Construction should not begin until Congress knows the full cost and approves of it. **Y-12**

Much of this increase is due to the new discoveries that the seismic hazard risks are greater than reported earlier. It may be cost-prohibitive to make the Nuclear Facility fully safe from an strong earthquake. Rather than spending enormous amounts of money to deal with a possible catastrophic earthquake, it would be better not to build there at all. **Y-6 cont'd**

The few supporters of the Nuclear Facility who spoke at the hearings claimed that the construction will add jobs to New Mexicans. But those jobs are temporary, and only for a few hundred workers. After the facility is built, almost all the workers will be transferred from other buildings. Even the Environmental Impact Statement admits that the socioeconomic impact on New Mexico is minimal. **Y-13**

The total cost of nuclear weapons complex across the country is estimated to be $180 billion over the next ten years. This is just too high in our failing economy. Money spent on unusable nuclear weapons do not spur economic growth. Rather than cutting domestic services to the poorest and most disadvantaged in our society in order to balance the federal budget, the $6 billion (and growing) could be used to create jobs for education, health care, mass transit, affordable housing, renewable energy, bridge upgrades, and better food distribution. **Y-12 cont'd**

NEW EIS

The original 2003 CMRR Environmental Impact Statement (EIS) was based on the 1996 Seismic Analysis. The current draft Supplemental EIS (SEIS) was conducted to deal with the more dangerous seismic issues revealed in 2007. But now, 5 years later, new seismic analyses are being conducted indicating even more serious potential consequences. So the 2003 EIS and the Supplemental EIS are outdated and should be withdrawn and a new full EIS written only after the results of the new current seismic investigations are known. **Y-6 cont'd**

There are discrepancies between the 2003 EIS and the Supplemental EIS -- for example, the figures regarding amount of water needed. The SEIS was drafted in a rush to meet desired timelines, and consequently is woefully inadequate. **Y-14**

I am concerned about the 225,000 cubic yards of soil to be evacuated. The soil needs to be analyzed for radioactive, toxic and hazardous materials that could impact the workers and environment. A plan for disposing of this potentially harmful soil needs to be outlined in the **Y-15**

of faulting and seismic hazards. Section 3.5 of the *Final CMRR–NF SEIS* summarizes the very detailed and extensive seismic information that has been compiled for LANL. This section draws heavily from the 2007 and 2009 PSHAs (LANL 2007, 2009), which were prepared by experts in seismic analysis using the ground motion prediction models as specified by NRC guidelines developed by the Senior Seismic Hazard Analysis Committee, "Recommendations for Probabilistic Seismic Hazards Analysis – Guidance on Uncertainty and the Use of Experts" (NUREG/CR-6372; NRC 1997), and established methodology. These PSHAs were reviewed and accepted by an external review panel, DOE, and DNFSB.

As indicated in Chapter 3, Section 3.5.3, of the *CMRR-NF SEIS*, the location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

DOE has been proactive in the assessment of the potential seismic hazards at LANL and the resulting design ground motions for the CMRR-NF reflect the best science and engineering available. That said, as future studies are performed on the geology and seismology of LANL, new information may become available. In the 2007 and 2009 LANL seismic hazard evaluations, which updated an analysis issued in 1995, a concerted effort was made to properly capture the uncertainties in input parameters and, hence, it is anticipated that new information will not have a significant impact on the current assessment of the seismic hazard or design-basis earthquake ground motions for LANL. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

In addition to the assessment of seismic hazards at the CMRR-NF site, site-specific geotechnical investigations have been completed for both the Shallow Excavation Option and the Deep Excavation Option. A geotechnical report prepared for the Shallow Excavation Option provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy,

Campaign Y (cont'd)

new EIS.

Y-15 cont'd

The need for more plutonium pits needs to be re-evaluated, given the long life expectancy of existing pits. The need for a hugely expensive new building needs to be re-evaluated, analyzing the possibility of doing research on existing pits in upgraded existing facilities.

Y-10 cont'd

ALTERNATIVES

The current draft Supplemental EIS lists only 3 alternatives -- two of which are totally unreasonable because of the increased seismic risk, leaving only the current plan which is unacceptable to most of the citizens who spoke at the hearings. There are other more acceptable alternatives that the new EIS needs to consider.

Some reasonable alternatives: upgrading existing facilities; building a much smaller nuclear facility for research; building just a vault to store plutonium; consolidating the research in the newly built Rad Lab and PF-4; diversify LANL's mission to move away from nuclear weapons research and production; and use LANL expertise to work on nonproliferation, renewable energy sources, and responding to global warming. Each realistic alternative which the public has suggested needs to be addressed in a new IES.

Y-16

MORAL ISSUES

Nearly every major religious body has declared it immoral to not only use, but also to build and threaten to use weapons of mass destruction. Even if never used, the production and presence of nuclear weapons harms huge numbers of innocents civilians. Threats to use weapons of mass destruction tends to cause other nations to want to build their own out of fear. The more weapons out there, the more chances exist for terrorists to get ahold of them.

It is also immoral to cut services to the poor and disadvantaged populations in order to pay for weapons of mass destruction. In a declining economy and a world facing global warming, we have a moral obligation to use our resources for more urgent human needs.

Y-17

Thank you for your consideration. I would like to receive only the summary of the final EIS, not the full report.

which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation (Kleinfelder 2007a). The report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]). The proposed CMRR-NF would be designed and constructed in accordance with geotechnical recommendations provided in the geotechnical report (Kleinfelder 2007a). Similarly, the Deep Excavation Option would be completed in accordance with recommendations resulting from the geotechnical reports (Kleinfelder 2010a, 2010b).

The potential impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10, of the *CMRR-NF SEIS*. Whichever alternative or option is selected, the CMRR-NF will meet the design standards for a Performance Category 3 (PC-3) facility. PC-3 structures, systems, and components are those for which failure to perform their safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials. Design considerations for this category are to limit facility damage as a result of design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002b).

Y-7 LANL materials control and accountability procedures are conducted in compliance with DOE orders. In a letter to the president of the Institute for Energy and Environmental Research dated February 28, 2006, the NNSA Administrator replied to at-that-time allegations of a plutonium accounting discrepancy at LANL (NNSA 2006b). This apparent discrepancy resulted from the use of different tracking and reporting procedures by site security and waste management organizations. Comparison of the information contained in the two systems cannot be used to draw conclusions about the control and accountability of special nuclear material.

Y-8 Comment noted.

Y-9 As indicated in the response to comment Y-6, the CMRR-NF will meet the design standards for a PC-3 facility, which means that design considerations for structures, systems, and components for which failure to perform their

Campaign Y (cont'd)

safety function could pose a potential hazard to public health, safety, and the environment from release of radioactive or toxic materials must be designed to withstand design-basis natural phenomena events (for example, an earthquake) so that hazardous materials can be controlled and confined, occupants are protected, and the functioning of the facility is not interrupted (DOE 2002a). This requirement would extend to both the fire suppression and ventilation systems for the CMRR-NF. As described in Chapter 2, Section 2.6.2, the footprint of the Modified CMRR-NF is larger than that of the 2004 CMRR-NF due to space required for engineered safety systems and equipment, such as an increase in the size and quantity of heating, ventilation, and air conditioning ductwork, addition of safety-class fire suppression equipment, plus the associated electrical equipment. In addition, the lowest building floor or level would be devoted to the fire suppression water storage tanks, other facility support equipment, and maintenance areas. Inclusion of a dedicated water source for fire protection within the building assists in meeting nuclear safety and design requirements.

The commenter may be referring to a February 8, 2011, letter from DNFSB to Thomas P. D'Agostino, Administrator, NNSA, which referenced a December 20, 2010, letter from LANL to NNSA proposing certain changes to the CMRR project and design (DNFSB 2011a). NNSA responded in a February 28, 2011, letter to Peter S. Winokur, Chairman, DNFSB, indicating that NNSA was analyzing the LANL proposal, and would share its analysis with, and solicit input from, DNFSB before reaching a conclusion. LANL was instructed not to proceed with any design changes until NNSA provides additional direction (NNSA 2011).

Y-10 NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a).

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any

Campaign Y (cont'd)

particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the *Final Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the *Federal Register* on December 19, 2008 (73 FR 77644). Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced section of the *CMRR-NF SEIS*. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

Y-11 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

Y-12 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer

Campaign Y (cont'd)

to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Y-13 The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county ROI. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Y-14 Changes in the design for the CMRR Facility proposed in 2003 and the current, more mature design that could affect environmental impacts are the reason that this SEIS to the *CMRR EIS* has been prepared. Absent these differences, there would be no reason to supplement the *CMRR EIS.* The *CMRR-NF SEIS* reflects changes in the proposed alternatives and new information that has been developed since the *CMRR EIS* was issued. In particular, the design of the proposed CMRR-NF has changed substantially from the original design to address seismic issues. It is the changes resulting from seismic requirements that caused NNSA to decide that an SEIS should be prepared. An example of these changes is the difference in water usage cited by the commentor. The estimate of water usage for the Modified CMRR-NF reflects a more mature design and is considered to be more accurate than the estimate included in the 2003 *CMRR EIS*.

Y-15 At the time RLUOB was being constructed, the adjacent area proposed for the CMRR-NF was also excavated to a depth of about 30 feet (9.1 meters) in support of site geologic characterization and seismic mapping. No contamination was found in the area. Chapter 4, Section 4.3.12, of the *CMRR-NF SEIS* indicates that surveys have been conducted to identify potential release sites, and that no unidentified or unexpected soil contamination or buried media have been encountered. Should any unexpected contaminants be encountered during excavation at the proposed CMRR-NF site or other locations that would be

Campaign Y (cont'd)

disturbed in support of construction activities, appropriate documentation and contaminant removal would be undertaken by LANL Environmental Restoration staff in accordance with the Consent Order and other applicable requirements. Construction personnel would be protected through appropriate training, monitoring, and management controls; and storage and disposal of such materials would be in accordance with applicable requirements at permitted facilities.

Y-16 The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.2, NEPA Process, and Section 2.11, Alternatives Considered, of this CRD for additional information.

Y-17 Comment noted.

Campaign Y (cont'd)

Individuals submitting this campaign:

Betty Cauthorne
Luella H. Clavio
Carole Landess
Peter Lapolla
Mary McCormick
Penelope McMullen, Loretto Community
Elizabeth M. Reed
Pat Roach
Roy Silverman
Etta Smith
Helen Sutton
Natasha Tonres

Campaign Z

As a member of impacted communities from the nuclear weapons industrial complex, I wish to express my opposition toward the proposed CMRR-NF SEIS (Chemical Metallurgy Research and Replacement Nuclear Facility, Supplemental Environmental Impact Statement) based on the following: *Z-1*

- A **new** environmental impact statement (EIS) needs to be created because the current supplemental EIS does not cover the changes in size, cost (4.5 billion and rising), and scope. *Z-2*
- Environmental standards need to be held to **highest level** of nuclear safety regulations. *Z-3*
- I am in **solidarity** with Santa Clara Pueblo's Tribal Resolution No. 08-16, which opposes the expansion of plutonium pit production at LANL (Los Alamos National Laboratory) and making that production capacity permanent through this complex. *Z-4*
- The current SEIS **does not** adequately address the increased seismic dangers, unstable geological strata, storm runoff contamination, and fire risks that exist with the proposed location. *Z-5*
- Expansion in proposed plans would only add to the 60+ years of legacy waste contamination in NM and should **not be allowed** until clean up is addressed in accordance with the 2005 consent order with the NMED (New Mexico Environmental Department). *Z-6*
- Money spent on unusable nuclear weapons **does not** support or spur economic growth, but goes straight into corporate pockets, depriving local communities of federal funds. *Z-7*

Z-1 NNSA acknowledges the commentor's opposition to construction and operation of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Z-2 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action to address changes in construction of the CMRR-NF based on additional seismic information. The increased size of the proposed CMRR-NF is due primarily to addressing seismic concerns; the scope of activities to be performed in the CMRR-NF has not changed since the *CMRR-EIS*. All of the changes made in the design, siting, and construction of the proposed CMRR-NF from the originally proposed CMRR Facility analyzed in the *CMRR EIS* are evaluated in the *CMRR-NF SEIS*.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Z-3 The CMFF-NF will be designed and operated in accordance with applicable laws and regulations. Chapter 5, "Applicable Laws, Regulations, and Other Requirements," of the *CMRR-NF SEIS*, provides the regulatory basis for design and operation of the CMRR-NF.

Z-4 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

Campaign Z (cont'd)

Z-5 The *CMRR-NF SEIS* addresses each of the identified subjects in detail:

Seismic concerns, including unstable geologic strata:

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazards analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). The updated seismic hazards analyses provided a better understanding of the ground motion and seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a sizable earthquake event without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Storm runoff contamination:

LANL staff manages stormwater runoff from both industrial and construction activities, such as the proposed construction of the CMRR-NF, under Stormwater Pollution Prevention Plans. These plans require the cleanup of any spills or leaks, monitoring of surface-water runoff, and implementation of best management practices for the control of stormwater runoff quality and quantity. Implementation of Stormwater Pollution Prevention Plans includes a number of temporary and permanent detention ponds that are included in the description of the Modified CMRR-NF Alternative (see Chapter 4, Section 4.3.6 of the Final CMRR-NF SEIS).

Campaign Z (cont'd)

Fire risks:

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Z-6 NNSA intends to continue to implement actions necessary to comply with the Consent Order regardless of decisions made on the proposed construction of the CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Z-7 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Campaign Z (cont'd)

Individuals submitting this campaign:

David Bacon
Patrick Baldonado
Jennette L. Bando
Steven Burger
Teresa J. Chavez
Channing Concho
Carole Crews
Mrs. Johnnie M. deSchweimte
Doug Doran
Gailin Marie Sims Kirkland, M.A.
David E. Martinez
Sherin Gonzales Miller
David Miller
Melynda Montaño
Eva Oyenque
Marcus Pegasus
Lisa Putkey
Everett A. Rael
Lily Martinez Rael
Seth Regensburg
Wendy Romero-Yanez
Maurice de Segovia
Felicia M. Trujillo
Beata Tsosie-Peña
Paul M. Warner

Campaign Z (cont'd)

• Money spent on unusable nuclear weapons does not support or spur economic growth, but goes straight into corporate pockets, depriving local communities of federal funds.

Additional Comments:

I strongly disagree with this problem that they want to bring plutonium to N.M. the waist will harm our soil and our air for many years! I hope and pray that they change there decision to bring waist to N.M.

Z1-1

Patrick Baldonado

Z1-1 NNSA notes that no radioactive waste would be brought into New Mexico as a result of actions proposed and evaluated in the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of construction and operation of the CMRR-NF, a facility that would replace the existing CMR Building, and in which analytical chemistry, materials characterization, and plutonium research in support of stockpile stewardship and other LANL efforts would be conducted.

Radioactive waste types that would be generated at the CMRR-NF include low-level radioactive waste, mixed low-level radioactive waste, and transuranic waste. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. Transuranic waste would be disposed of at WIPP or a similar facility. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Campaign AA

The following comments were identified upon reviewing approximately 4,500 submittals. The response to each comment is on the right of the page.

1. The United States does not need 80 new plutonium pits per year. Without a nuclear arms race, the 20 pit per year production limited implemented by DOE in 1999 should suffice.

2. A new nuclear facility will detract from cleanup of the existing mess. The Department of Energy (DOE) made a commitment to clean up the legacy waste at Los Alamos Lab by 2015. Construction activities for a new Nuclear Facility will interfere with cleanup activities. DOE must devote taxpayer funds to cleanup, not a new bomb plant that would only add to the pollution.

3. The draft Supplemental Environmental Impact Statement is premature and should be withdrawn. A new seismic analysis is underway at Los Alamos Lab and the results will impact the design of the building.

AA-1 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

AA-2 NNSA does not consider compliance with the Consent Order to be optional and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. It should be noted that DOE and NNSA have limited authority in making decisions about how budgeted funds are spent. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

AA-3 NNSA notes the commentor's position that the SEIS is premature. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

A new seismic analysis is not under way at LANL, however, seismic studies are conducted on a continuing basis. Subsequent to the original proposal for the CMRR Facility and preparation of the *2003 CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site specific geotechnical evaluations of the proposed CMRR-NF construction site were

Campaign AA (cont'd)

4. The alternatives considered in the Supplemental Environmental Impact Statement are inadequate. The DOE should include "taking no action" as one of the alternatives to the CMRR project. All of the alternatives currently listed support building the Nuclear Facility.
5. Manufacturing plutonium pits is a dangerous and polluting threat to the health and safety of those living downwind and downstream. Plutonium is a very potent carcinogen. Los Alamos Lab's discharges disproportionately impact Native peoples and Hispanic New Mexicans.
6. Money spent on nuclear weapons does not spur economic growth. Investments in education, healthcare, renewable energy, and public transportation would all create more jobs and spur more growth.

performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. There is no reason to withdraw the *CMRR-NF SEIS*, as building designs are rarely completed prior to the preparation of a NEPA document. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

AA-4 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the *2003 CMRR EIS* (69 FR 6967). Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

AA-5 The dangers of plutonium have been recognized since its first large scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

Campaign AA (cont'd)

7. Expanding the United States' nuclear production capabilities further undermines President Obama's stated goal of a world free of nuclear weapons. This type of contradictory message will only breed distrust of US intentions. With such actions, the US could potentially spur nuclear weapons development elsewhere.

8. The Supplemental Environmental Impact Statement is inadequate – a complete, new Environmental Impact Statement is needed. Los Alamos National Laboratory sits on an earthquake-prone area between the Rio Grande rift and the volcanic Jemez Mountains. The original Environmental Impact Statement (2004) looked at a building designed to withstand only mild seismic events, but a 2007 study indicated a potential huge increase in ground motion activity, requiring major changes to the building design.

9. Nuclear weapons are obsolete. They are useless against a terrorist attack, and building more weapons will only increase proliferation and the chance that a terrorist could acquire nuclear material.

10. The CMRR Nuclear Facility proposed at Los Alamos Laboratory is dangerous environmentally and physically.

AA-6 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

AA-7 NNSA acknowledges that there is substantial opposition to nuclear weapons and that President Obama has stated a long term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

AA-8 Refer to the response to Comment AA-3.

AA-9 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

AA-10 The CMRR-NF would be designed, constructed, and operated in accordance with applicable regulations and standards for environment, health, and nuclear safety, including seismic standards (see Chapter 5 of the CMRR-NF SEIS). The potential environmental impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 and summarized in Chapter 2, Section 2.10, of the *CMRR-NF SEIS*.

Campaign AA (cont'd)

11. The costs to build a plutonium pit production complex are too high. The Department of Energy should consider other options, such as upgrading old facilities for safety, rather than spending $5.8 billion on a project that was estimated to cost $600 million at the start.

AA-11 As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production would not occur in the CMRR-NF. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

NNSA evaluated transforming the nuclear weapons complex into a smaller, more efficient enterprise in the Final *Complex Transformation SPEIS* (DOE 2008b) in 2008. NNSA announced its decisions regarding operations involving plutonium, uranium, and the assembly and disassembly of nuclear weapons, and including the decision to construct and operate the CMRR-NF at LANL as a replacement for portions of the existing CMR Building, which were based on a number of considerations including cost, in a ROD published in the Federal Register on December 19, 2008 (73 FR 77644). Continuing with the development of the CMRR Facility at LANL supports the analytical chemistry and materials characterization work needed to ensure that the United States' nuclear weapons stockpile can continue to be managed safely. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original CMRR EIS and the current CMRR-NF SEIS (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level because of seismic issues (for example, a fault trace underlies a portion of the existing CMR Building) and security concerns associated with the 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined not to be a reasonable alternative for a number of technical and programmatic reasons as discussed in the previously referenced Section 2.7 of the *CMRR-NF SEIS*. Section 2.7

Campaign AA (cont'd)

12. The NNSA is doing ecological harm by constructing a new nuclear storage and development facility at the Los Alamos National Laboratory.

13. The new plans for a CMRR Nuclear Facility at the Los Alamos Lab are alarming.

14. The National Nuclear Security Administration's plan to make a space for building new plutonium pits in Los Alamos is a terrible idea and not in the best interest of our country.

15. Nuclear weapons and nuclear power are generally bad industries and should be ended.

of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

AA-12 As discussed in the response to Comment AA-10, the CMRR-NF would be designed, constructed, and operated in accordance with applicable regulations and standards for environment, health, and nuclear safety, including seismic standards. The potential environmental impacts of the proposed alternatives for construction and operation of the CMRR-NF are discussed in Chapter 4 of the CMRR–NF SEIS, with possible impacts on ecological resources specifically analyzed in Sections 4.2.7, 4.3.7, and 4.4.7.

AA-13 NNSA acknowledges the commentor's concern about constructing and operating the CMRR-NF.

AA-14 See response to Comment AA-11.

AA-15 NNSA notes the commentor's opposition to nuclear energy and nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Campaign AA (cont'd)

16. More plutonium pits and nuclear weapons, and more plutonium in general, are not needed.

17. NNSA should not construct and operate the CMRR-NF.

18. NNSA does not have enough information to address seismic concerns.

19. NNSA must learn from prior accidents that have occurred in the nuclear industry, such as what has happened at Chernobyl, Russia, and Fukushima, Japan. These facilities were thought to be safe. The risks are too high; it is a matter of not if, but when, such accidents will occur.

AA-16 NNSA notes the commentor's opposition to the production of plutonium pits and nuclear weapons, and to the existence of plutonium. DOE/NNSA has not produced plutonium since 1988 and has no plans to produce additional plutonium. Refer to the response to Comment AA-1 regarding pit production levels.

AA-17 NNSA acknowledges the commentor's opposition to constructing and operating the CMRR-NF. A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort.

AA-18 See response to Comment AA-3.

AA-19 NNSA acknowledges the commentor's concern that an accident similar to those that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant and in 1986 at Chernobyl could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The types of radiological accidents that occurred at the Fukushima Daiichi Nuclear Power Plant and Chernobyl require a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

Campaign AA (cont'd)

20. Plutonium is dangerous and threatens to pollute air, water, and agricultural lands, and endanger the health and safety of people who live downwind. LANL has been polluting the Rio Grande for years with its toxic runoff. People of Sante Fe have to drink polluted water because of the discharges from LANL, and LANL should not be adding more pollutants to air and water resources for the people down wind and down river. Commentors are concerned about the impacts spreading as far as Texas.

AA-20 The dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives. As indicated in Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, there would be no disproportionately high and adverse impacts on minority populations, including Native Americans and Hispanics, under any of the alternatives.

The Albuquerque water utility has monitored the Rio Grande by collecting and testing samples at various sites from the Heron Reservoir along the river to Albuquerque for metals, minerals, nutrients, organic substances, and radionuclides (City of Albuquerque 2006). The river water meets EPA drinking water standards for all of these substances (specifically, the levels of radionuclides are far below the EPA standards).

Campaign AA (cont'd)

21. The question was asked about how much compensation has been made to LANL workers and their families due to their premature deaths.

AA-21 The Federal government has a number of programs related to the health of former government workers. More information on these programs can be found at the following websites. http://www.hss.energy.gov/healthsafety/fwsp/formerworkermed; http://www.dol.gov/owcp/energy/index.htm; and http://www.cdc.gov/niosh/ocas/ocassec.html.

Campaign AA (cont'd)

22. The wildfires have come too close to LANL. New Mexico is experiencing its worst drought ever recorded with forest fires in several areas.

23. NNSA facilities are susceptible to terrorists. Nuclear facilities do not have proper security. It is not wise to have plutonium sitting around.

AA-22 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 LANL SWEIS, Appendix D (DOE 2008a). The CMR Building and the TA 55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are largely constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to directly affect the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

AA-23 DOE gives high priority to the safety and security of all its facilities and to plutonium accountability. Security, theft, and potential acts of sabotage are integral considerations in the designs and operating procedures for new and existing DOE nuclear facilities. DOE considers these threats to be real and uses an established safeguards and security process to assess facility vulnerabilities to various threats, including those from intentional destructive acts such as terrorism.

Campaign AA (cont'd)

24. No one has designed a long-term safe storage facility for nuclear waste. WIPP is full. Nuclear waste cannot be disposed of safely.

25. The valuable resources at LANL should be addressing environmentally safe technologies and research.

26. Nuclear accidents can have disastrous consequences for the public.

27. No one calculates the nearly infinite costs of housing nuclear materials indefinitely or how to safely care for this material for its dangerous lifespan.

28. The production of plutonium pits, in today's tight economy, needs more study.

AA-24 Radioactive waste types that would be generated at the CMRR-NF include low level radioactive waste, mixed low level radioactive waste, and transuranic waste. Sufficient capacity exists at LANL or at offsite facilities to manage all of the projected waste associated with any of the alternatives included in the *CMRR-NF SEIS*, as discussed in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12. Transuranic waste would be disposed of at WIPP or a similar facility. Because the total quantity of transuranic waste that may be disposed of at WIPP is statutorily established, and the operating period for WIPP will depend on the volumes of waste that may be disposed of at WIPP, WIPP may meet its statutory disposal limit before the end of the operational period for the proposed CMRR-NF. If necessary, transuranic waste generated without a disposal pathway would be safely stored pending development of additional disposal capacity. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information. High level radioactive waste and used (spent) nuclear fuel would not be generated at the CMRR-NF and are outside the scope of the *CMRR-NF SEIS*.

Radioactive waste disposal facilities must meet Federal requirements regarding their ability to contain waste safely and not impact human health and the environment. Performance studies are performed to determine the suitability of the site and to optimize the facility design and operations to safely contain the waste. Facilities also must undergo environmental monitoring and report the results.

AA-25 LANL is an active research facility. Research areas currently under way at LANL include environmental technology, renewable energy, global climate change, antiterrorism and nonproliferation, and biological and biomedical research.

AA-26 Appendix C of the *CMRR-NF SEIS* describes the methodology and assumptions, accident selection process, and selected accident scenarios and their consequences and risks. While accidents at nuclear facilities can have large consequences, the risks can be managed and mitigated with proper design, construction, and operation. Refer to Section 2.8, Nuclear Accidents, of this CRD for additional information.

AA-27 DOE and NNSA are concerned about the long term process and costs associated with housing and safely storing plutonium from nuclear weapons. The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

Campaign AA (cont'd)

29. NNSA should not go ahead with a cost over-run, dangerous, and eco-damaging project such as the CMRR-NF. A more reasonable approach needs to be found. The poor and elderly are being stripped of their benefits to create this project. The quality of life of citizens needs to be improved.

30. Nuclear facility designs do not take into account the changing weather patterns. NNSA needs to heed the warnings of storms that are stronger than ever imagined.

31. The CMRR-NF building will be too heavy seismically.

AA-28 As discussed in the response to Comment AA-1, a decision on pit production is not within the scope of the *CMRR-NF SEIS*.

AA-29 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

AA-30 Nuclear facilities at LANL undergo an extensive safety evaluation and approval process that ensures that they can be operated safely. This process is mandated by Federal law. The details of the process are also codified and ensure that accident planning includes planning for rare events, including severe seismic and other natural phenomena, such as severe weather and flooding (see Appendix C of the *CMRR-NF SEIS* on facility accidents). Chapter 3, Section 3.4.4, of the *CMRR-NF SEIS* has been revised to include a description of the types of environmental changes that could occur in the southwestern United States due to climate change.

AA-31 A geotechnical report prepared for the Shallow Excavation Option provides a thorough analysis that focuses on, among other things, the foundation design and performance, taking into account the local seismic setting and the underlying stratigraphy, which includes an unconsolidated tuff layer approximately 15 feet (4.6 meters) below the depth of the proposed foundation (Kleinfelder 2007a). The report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]). The proposed CMRR-NF would be designed and constructed in accordance with geotechnical recommendations provided in the geotechnical reports (Kleinfelder 2007a 2007b). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (44 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option. A draft slope stability analysis has been prepared that indicated that global slope stability is not an issue for the Deep Excavation

Campaign AA (cont'd)

32. The CMRR-NF project will not increase jobs for people of New Mexico.
33. There is too much plutonium.
34. Nuclear facilities are accident prone. There is no planning for rare seismic and other events.
35. The CMRR-NF building is being built on a fault line.

Option (LANL 2011a: LANL site, 028). If the Deep Excavation Option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed.

AA-32 The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four county region of influence. However, NNSA recognizes the opinion stated by a number of commentors during the public comment period that the creation of any construction jobs during the current economic climate would have a positive effect on the construction industry in northern New Mexico.

AA-33 As addressed in the response to Comment AA-16, DOE/NNSA has not produced plutonium since 1988 and has no plans to produce additional plutonium. In fact, DOE/NNSA has plans to permanently disposition 34 metric tons of surplus plutonium, and as described in the July 19, 2010, Notice of Intent (75 FR 41850), is planning to permanently disposition approximately 13 metric tons of additional surplus plutonium. See http://nnsa.energy.gov/nepa/spdsupplementaleis for more information on NNSA's program for surplus plutonium disposition.

AA-34 Refer to the response to Comment AA-30.

AA-35 Refer to the response to Comment AA-3.

Campaign AA (cont'd)

36. What are the current cancer rates in the LANL area? We believe our daughter died from radioactively-contaminated well water in Santa Fe, New Mexico.

37. More nuclear weapons go against the START treaty.

38. The Cerro Grande fire in 2000 sent smoke to the northeast for probably a month. Is it a coincidence I was diagnosed with bladder cancer the following year? When the trees burned that had grown in the canyons surrounding Los Alamos it was discovered that these were places where barrels of waste from Los Alamos work done long ago had been tossed off the rim. We had to wonder what was in the particles that caused the coughing and two weeks of red eyes.

AA-36 Chapter 3, Section 3.11.4, Health Effects Study, of the *CMRR-NF SEIS* provides a summary of a number of epidemiological studies that have been conducted in the LANL area, as well as a summary of cancer incidence and mortality figures for the Los Alamos Region as derived from data from the National Cancer Institute. Table 3 19 in Section 3.11.4 summarizes cancer rates from 2003 through 2007 for Santa Fe County. Although it is not possible to draw any conclusion about the cause of any particular cancers, the data indicate that Santa Fe cancer rates are higher than the U.S. and state averages for some types of cancers and lower for others.

AA-37 Current operations at LANL do not violate the Treaty on the Non Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would operations that would be performed in the proposed CMRR-NF. The United States is reducing its nuclear weapon stockpile, but also needs to maintain the existing stockpile. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

AA-38 A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. As noted in Chapter 4, Section 4.6.1.3, of the 2008 LANL SWEIS (DOE 2008a), an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself.

Campaign AA (cont'd)

39. Disposition of plutonium waste from the CMRR needs further analysis, including if there are plans to ship the materials to the Savannah River Site. Will plutonium waste to WIPP meet the "spent fuel standard" in disposing of plutonium? This standard was established in DOE's deliberations on what to do when disposing of surplus weapons plutonium, but disposal in WIPP of such plutonium affirms that the spent fuel standard is null and void. Please confirm, or not, that the spent fuel standard is no longer the standard being applied.

40. There are concerns that issues flagged by DNFSB have not been adequately addressed.

AA-39 Refer to the response to comment AA-24. No shipments of radioactive waste are planned from the CMRR-NF to the Savannah River Site. The potential shipment of plutonium –bearing waste from the Savannah River Site to WIPP is the subject of another DOE SEIS. Refer to http://nnsa.energy.gov/nepa/spdsupplementaleis, for more information.

AA-40 For many years NNSA has worked with DNFSB regarding identification and resolution of possible safety issues pertaining to the CMR Building, the CMRR Project, and other nuclear facilities at LANL. For example, DNFSB has reviewed DOE seismic hazard evaluations for LANL (see Section 2.6, Seismic and Geologic Concerns, of this CRD) and NNSA has worked with DNFSB to resolve questions about the design of safety class systems at the CMRR-NF (LANL 2009). In 2009 and in accordance with the 2009 Defense Authorization Act, LANL received a certification of design closure from DNFSB pertaining to the CMRR Project, addressing seismic as well as engineering and design and safety control issues; the certification freed the release of allocated funding for continuation of the project.

The commentor may be referring to a February 8, 2011, letter from DNFSB to Thomas P. D'Agostino, Administrator, NNSA, which referenced a December 20, 2010, letter from LANL to NNSA proposing certain changes to the CMRR project and design (DNFSB 2011a). NNSA responded in a February 28, 2011, letter to Peter S. Winokur, Chairman, DNFSB, indicating that NNSA was analyzing the LANL proposal, and would share its analysis with, and solicit input from, DNFSB before reaching a conclusion. LANL was instructed not to proceed with any design changes until NNSA provides additional direction (NNSA 2011).

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Petition 1

The following petition was signed by 607 individuals. The response is on the right of the page.

CLEAN UP! DON'T BUILD UP! NO MORE HARM FROM NUCLEAR WEAPONS!

We, the undersigned, demand our elected officials to STOP ALL funding for nuclear weapons, which violates the Nuclear Non-Proliferation Treaty that was ratified by the U.S. Senate, and to invest in the total cleanup of ALL nuclear facilities and dumping grounds and provide compensation to those harmed by such activities. We can no longer put future generations at risk because of the mistakes that we are making now and made in the past beginning with the Manhattan Project in 1943.

The *Final CMRR-NF SEIS*, including this Comment Response Document, has been distributed to a number of elected officials in the U.S. Senate and the U.S. House of Representatives. A list of recipients is included in Chapter 9 of the SEIS.

Petition 1 (cont'd)
Individuals submitting this petition:

CLEAN UP! DON'T BUILD UP! NO MORE HARM FROM NUCLEAR WEAPONS!

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Patti Andrea	[signature]	1023 Cielo Azul	
Michael Rodriguez	[signature]	123 Solana Dr SFNM	reguez3@yahoo.com
José Lopez	[signature]	1603 Paseo de la Conquistadora	
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Please return to: Concerned Citizens for Nuclear Safety, 107 Cienega Street, Santa Fe, NM 87501 * 505 986-1973 * www.nuclearactive.org

Petition 1 (cont'd)
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Petition 1 (cont'd)
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Petition 1 (cont'd)
Individuals submitting this petition:

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Name	Signature	Address	Email
Jonathan Rosacha	[signature]	5919 cielo oeste NW	Vanitysnips@hotmail..
TREVOR ELLIS	Trevor Ellis	312 La Veta Dr NE Apt D Albuquerque, NM 87108	Trev.del.Sol@gmail.com
Mark Banham	Mark Banham	314 S. Guadalupe	BanhamRuso PRUSONTATE.com
Natalie Roberts	Natalie Roberts	1219 Cerrillos Rd.	
PATRICIA BALLESTEROS	[signature]	103 Alcalde SP, SF 87505	—
Darya Peterson	[signature]	59 Apache Ridge Rd. 87505	daryapeterson@hotmail.com
Acadia Brooks	Acadia Brooks	1055 Camino Rancheros 87505	abrooks54@me.co
Jodi Drinkwater	[signature]	518 Old Santa Fe Trl #316 87505	dreamsofwater@yahoo.com
Sydney Drinkwater	Sydney Drinkwater	518 Old Santa Fe Trail #316 87505	sydneyelin@yahoo.com
Robert V. Keppel	Robert V. Keppel	829 W Manhattan Ave Santa Fe NM 87501	
Wendell Robinson	Wendell Robinson	526 1/2 Alvarado, Dr SE	

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Name	Signature	Address	Email
David Bacon	[signature]	54 San Marcos Rd. West SF 87508	tocino@cnsp.com
Carol Witter	[signature]	1220 Galisteo St.	carolawitter@comcast.net
Nan Keegan		3040 Pueblo Grande	nan.keegan@sfcc.edu
Patty Burke	[signature]		artalacart@gmail.com
Mario Ruiz	[signature]	4537 Contenta Ridge Santa Fe, NM 87507	
Keith Melton	[signature]	54 del ~~Galisteo~~ Santa Fe NM 87508	CSRkem@earthlink.net
Christy Martinez	[signature]	4622 Sunset Rd. Santa Fe NM 87507	cmmartinez@aol.com
Gloria Montoya	[signature]	200 Ricardo Rd SF NM 87501	
Catherine Ortega	[signature]	3021 Calle Caballero SF 87507	
Ariel Muniz	[signature]	740 Galisteo Apt 1 Santa Fe NM 87505	—
Cynthia Cole	[signature]	1515 Las Lomas Rd NE ABQ NM 87106	ecolady8@yahoo.com
Mark Barckholtz	[signature]	63 E. Lupita Santa Fe NM 87505	
Andrea Aragon	[signature]	503 Barela Ln Santa NM 87505	

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Name	Signature	Address	Email
Keith Carlson	[illegible]	2300 W Alameda D7, SF, NM 87507	
Aihara Lovato	Aihara Lovato	PO Box 114 Tesuque NM 87574	[illegible]@cool.com
Justin Hoffman	[illegible]	144 Las Brisas Rd SF NM 87505.	
Liz Hanzel	Eliz Henzel	1012 Hickox St. 87505	
Kate Marco	Kate Marco	723 e Agua Fria 87501	
Jennifer DeCou Rodriquez	[illegible]	2300 W. Alameda 87501	
Drucinda L. Ewing		P.O. 6504 Santa Fe 87502	
David Wheeler	[illegible]	P.O. Box 16 San Jose NM 87565	[illegible]wheeler@hotmail.com
Angela Harris	Angela Harris	1002 Osage Cir. Santa Fe, NM 87505	angela@earthcare.org
Jane Tokunaga	Jane Tokunaga	264 Cam de la Sierra SF NM 87501	janetokunaga@cybermesa.com
Cindy Roper	C. Roper	60 Tarantula Flts Cerrillos, NM 87010	croper56@gmail.com
Susan Butkovich	Susan Butkovich	1101 Galisteo St S.F. NM 87505	
Amy Kaplan	Amy Kaplan	HCR 72 Box 110 750/752 SR3 Ribera 87560	jmsgurl55@gmail.com

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Name	Signature	Address	Email
Royal Drews	[illegible]	16 Thistle Santa Fe 87506	royaldrews a gmail.co
Peter Valdez	[illegible]	501 Apodaca Hill Santa Fe NM 87501	
Calloway Bastien	Calloway R Bastien	15 Winding Rd Santa Fe NM 87805	
GREG ARAGON	Greg Aragon	7698 OLD SANTA FE TRAIL NM 87505	
Amber Schoch	Amber Schoch	34 Lavela Rd	amschoch@yahoo.c
RC Smith	RC	40 Camino Vista Grande, SF. NM 87508	BBS2713@yahoo.com
Fanan Churchoff	[illegible]	128 Sombra Dr Santa Fe, NM 87501	
Robert Dryden	[illegible]	8 Alcalde Rd, Santa Fe, NM, 8750[illegible]	
Glenn Castro	[illegible]	99 Los Horno Lamy N.M 87540	
Perry Truitt		4 Cercado Rd SF NM 87508	
Anita X. Tellez	Anita X. Tellez	P.O. Box 23664 SF NM 87502	
Ms Lynette Gish	Lynette Gish	2440 Calle Amelia SF NM 87505	
Kristo Coy	KRISTA Coy	418B Santa Ana St SF NM 84505	

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Name	Signature	Address	Email
Mary Mahan	Mary Mahan	1922 Truman St NE ABQ 87110	
Penelope McMullen	P McMullen	113 Cam. Santiago SF 87501	
PATRICIA HERRON	Patricia Herron	380 VANCOUVER Rd SE, RR, NM 87124	
Shannon Mason	Shannon Mason	7037 Pacific View Dr LA, CA 90068	
Chelsea Collonge	Chelsea Collonge	1925 Five Points Rd SW Abq, NM 87105	
JAME FUNK	J Funk	10425 Mountain Rd NE Abq 87112	
SANDRA HARELD	Sandra Hareld	3 CEBOLLA LOOP JEMEZ SPRINGS NM 87025	
SYLVIA SEDILLO	Sylvia Sedillo	2617 Kentucky St NE ABQ, NM 87110	Sedillo5L@Q.com
MARY ANN WAMHOFF	Mary Ann Wamhoff	6962 Golden Mesa SF, NM 87507	somasphere@earthlink.net
MARY NELSON	Mary Nelson	009 Banco Bonito Rd JS 87025	mnelson240@aol.com
Sharon Palma	Sharon Palma	3 Cebolla Loop Jemez Springs NM	
Karen Knoll	Karen Knoll	PO BOX 337 Jemez Springs, NM 87025	
Karen Navarro	Karen Navarro	12413 Cloudview NE Alb NM 87123	

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Delores Kincaide	Delores Kincaide	3 Cebolla Loop, Jemez Springs, NM 87025	

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Name	Signature	Address	Email
WILLIAM BOAZ		107 MESA VISTA S. Fe N.M., 87501	billboaz@EARTHLINK.NET
Lean Morton		401 Botulph Ln SF, NM 87505	—
Bruce Gollub		401 Botulph Lane SF NM 87505	
Lisa E. Miller		1201 A Camino Sierra Vista S.F. 87505	
Nara Fisher		551 W. Cordova Rd. #400 Santa Fe 87505	narafisher@earthlink.net
[illegible]. Dallah		P.O. Box 22792	

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Name	*Signature*	*Address*	*Email*
Elena Lokvig	Elena Lokvig	13888 Sancle Lane Grass Valley Ca,	omni@earthlink
Francesca Lemus	F Lemus	1994 Vereda San Antonio Santa Fe 87507	
Jodee Ogas	Jodee Ogas	32 Bobcat Ln Sandia Pk, 87047	Jodeeogas@gm
Nancy Dowe	Nancy Dowe	2501 W. Zia Rd #8109 Santa Fe NM 87505	
Peggy O'Mara	P O'Mara	106 Overlook Rd 87505 SF	
Kori Francis	Kori Francis	516 Juanita St. #2 Santa Fe NM 87501	korifrancis@gmail.com
Loren Elmaleh	Loren Elmaleh	209A E. Berger St, Santa Fe, NM 87501	
Susan B. McDonald	Susan B McDonald	488C Arroyo Tenorio, Santa Fe, NM 87505	
Kate M. Cooper	Kate Cooper	1229 Declovina St. 87505 Santa Fe NM.	
Jitter Kessl	[illegible]	402 St. Francis dr. Santa Fe NM, 87501	
Elaine Fattah	Elaine Fattah	121 Sereno Dr. SF, NM 87501	
Juniper Hunter	JH	119 Lugar De Oro St. SF, NM 87501	
Margot Ladue		218 Sombrio Dr S.F. NM 87501	

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Name	Signature	Address	Email
Stephan Shearer	S Shearer	1200 Camino de la Cruz C-1	—
Hope Buechler	Hope Buechler	PO Box 665 Arroyo Seco 87514	hopeb@taosnet.com
Carrie Leven	Carrie Leven	PO Box 1027 Questa, NM 87556	montecare11@yahoo.com
Julie Reinhart Sutherland	JRS	HC 81 139 Lama, Questa	586-1657
Elisabeth Keiner	Elisabeth Keiner	PO Box 1768 El Prado NM.	
MARY vandenBerg GREEN	Mary B Green	PO 1779 TAOS NM 87529	greengreen108@yahoo.com
Susan Moore	Susan Moore	1452 B Mesa Vista Ln El Prado NM	susanlynnmoore@yahoo.com
Helen South		110 La Loma St. Taos NM 87571	
Marian Naranjo	Marian Naranjo	Santa Clara Pueblo	
Leslie Gallatin	Leslie Gallatin	108 1/2 Huddleson St Santa Fe, NM 87501	lesliepalosanto@earthlink.net
Marisol Colón	Marisol Colón	108 DayBreak 87507	danielborrero@me.com
Daniel A. Borrero	Daniel A Borrero	"	"
Donald Houser	Donald R Houser	130 Valley Drive Santa Fe 87501	

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Name	Signature	Address	Email
Katya Backhaus	K Backhaus	RR 4 Box 178 Española	katyabackhaus@gmail.com
Makeya Tapp	[illegible]		
SAVOY [illegible]	SAVO		
Elijah Wolverton	[illegible]		
Priscilla Brahe	Priscilla Brahe	—	—
Julie Salazar	J Salazar	139 Pine St SF 87501	julsbern@aol.com
Mike May	Mike May	7008 Sweetbrier NW	EMMA[illegible]@yahoo.com
Maury Culberg	[illegible]	—	
Ezra Leyba	[illegible]	54 osharaBLVD.	OLAOLA@gmail.com
Deborah Kornblau	Deborah Kornblau	130 E. Lupita Rd.	
Pasha Hogan	Pasha Hogan		

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Name	Signature	Address	Email
KURT STALZER	[signature]	2300 W. ALAMEDA #D1	stalzer@cnsu.com
HEIDI OLSEN	[signature]	Oñate pl	—
NED BITTINGER	[signature]	1323 Escalante SF 87505	nedbit@earthlink
SONIA RAMIREZ	Sonia Ramirez	" " " "	"
[illegible]	[signature]		
Michael Chilton	[signature]		
Teresa Fayden	[signature]	Camino [illegible] SF 87507	
C Williams	C Williams	Box 8256 Santa Fe NM	RUN29SH@yahoo.com
Judy Bolles		512 Alicia St. SANTA FE, NM 87105	
Alma Best		1501 Montano St #10 87505	
JULIA TAKAHASHI	Julia Takahashi	PO BOX 9230, SF 87504	
Elizabeth Christine	E Christine	1325 Cerro Gordo 87501 SF	

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Name	*Signature*	*Address*	*Email*
Ned LANE	N. Lane	1005 Alto St	nedLANE@nmsu.edu
Janis Leitz	Janis Leitz	p.o. box 9627 Santa fe, nm 87504	
Ellen Amba Calderez	[illegible]	132 Romero #4 Santa Fe, NM 87501	
Stephanie Burns	[illegible]	Tesuque NM 87574	
Peter Mattair	Peter Mattair	2501 W Zia Rd #9-206 87505	peter@bioneers.org
John Wilson	[illegible]	PO Box 2374 TAOS	
Deborah Wroth	Deborah Wroth	651 Camino de la Luz	
William Wroth	Will Wroth	"	
Mamie Galston	Mamie Galston	551 W. Cordova #382 SF, NM 87505	
Deborah DeVito	[illegible]	127 Del Rio SF NM 8750?	
Garry Transue	[illegible]	121 Mesa Vista SF, NM 87501	
Felicia N. Trujillo	Felicia N. Trujillo	POB 28068 SF NM 87592	

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Name	Signature	Address	Email
PETER THOMAS WHITE	Peter Thomas White	501 HILLSIDE AVE SANTA FE 87501	
TANA HOWELL	Tana Howell	2214 W Alameda St 87507	
Karen McCleary Muñoz	[illegible]	2060B Gonzales Rd. SF 87501	
Josh Herrera	Joshua Herrera	121 Sereno Dr. Santa Fe 87501	
* Erin Mankins	Erin Mankins	525 Camino Solano 87505	
Anthony P. Begg	AP Begg	825 Calle Mejia #402, Santa Fe NM 87501	

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Name	*Signature*	*Address*	*Email*
Andrew Gomm	andrew Go	52 Camino Chupadero Santa Fe NM 87506.	agomm@yahoo .com
Alejandra Rebolledo	Alejandra Rebolledo	"	aliuxrea@gmail.com
Xochitl Romero	Xochitl Romero	P.O. Box 459 Santa Cruz, NM 87567	
BARBARA SIMPSON	Barbara Simpson	P.O. BOX 3199, SANTA FE NM 87594	
Gabriel Rima	Gabriel Rima	2378 Camino Capitan #1 SF, NM 87505	potentialto Vepote[illegible]
KATHY BARRON	[illegible]	2 RED BLUFF DRAW SF NM 87508	sisufilms @gmail.com
MAGDALENA ANDERLE	Magdalena Anderle	1549 Camino de la Canada	magdalena.anderle @hotmail.co
[illegible]	[illegible]	2 Calle Francis SF NM	[illegible] @gmail
Juli Clemm	Juli Clemm	P.O. BOX 330 El Rito NM 87530	
Jewel Alexander	J Alexander	7103 Rancho Siringo Rd PO BOX 24273 Santa Fe 87502	
PAUL GARNAAT	Paul [illegible]	1401 Hickox St #C	hosspilot@gmail
Joe Wheeler	Joe Wheeler	Unruste SF NM 87801	

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Individuals submitting this petition:

PAUL NORTH	Paul S. North	P.O. BOX 66057	87193
Lian Reed	[illegible] Reed	2612 Redwood	87507
James Archibald	James Archibald	1105 Caminito Alegre	87501

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Name	Signature	Address	Email
Amanda Bramble	[illegible]	PO Box 773 Cerrillos NM	
Marianne Greendyk	M Greendyk	120 Meridan Rd, Boonton, NJ	
Bobbe Besold	[illegible]	362 Lomita St	
Maurice Webster	[illegible]	204 Serena Ave. Santa Fe.	
Margaret Gorman	Margaret M. Gorman	755 W Manhattan Ave / Santa Fe 87501	
Melissa Williams	[illegible]	109 Caminito Montano St. / " " 87501	
Brion C. Morgan	Brion C. Morgan	1304 Alameda Ct. S.F. 87501	
James Keele	James Keele	3313 Camino Cielo Vista, SF 87507	
DAVID RECECONI	[illegible]	127 VALLEY DRIVE 87501	
NICOLA BOWKETT	N Bowkett	HC74 Box 561 Pecos 87552	
Jan Boyer	Jan Boyer	815 Rio Vista St 87501	
JEN LESHER	[illegible]	222 MIRAMONTE ST, SANTA NM 87501	
FOREST McDONALD	Forest [illegible]	1067 66th St Oakland CA 94608	

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Name	*Signature*	*Address*	*Email*
Anne Thompson		PO BOX 982, SF, NM 87505	-
Deborah Dickerson		134 Cibola Cir SF, NM, 87501	
Elizabeth Allen		303 E. Buena Vista SF 87505	
Carmen Blue		P.O. Box 31152 SF, NM 87594	
Laurie Livelina		125 Mesa Verde St 87501	
Alma DaSilva		1512 Paseo de la Conquistadora SF NM 87501	
Azra MaEl		1 Inez Ct, SF, NM 87508	
Steve Martens		629 Webber St SF NM 87505	
Sandra Shultz		P.O. Box 416 El Prado NM 87529	
Maria Hondros		1949 CAMINO CUMBRE, SF. 87505	
Maria J. LeBlanc		1501 Montaño St. #23 S.F 87505	
Shellie Steckel ~ Sheppard		5 Frasco place, Santa Fe, n.m. 87508	
Carol Madley		917 Don Juan St Santa Fe NM 87501	

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Name	Signature	Address	Email
Bruce Michelson		306 Camino Largo 87505	
Anne Parker	Anne Parker	551 W. Cordova #559 SF NM 87505	
Wyn Lewis	W. Lewis	814 Sereno Dr Santa Fe 87501	
Mimi Braiman	E. Braiman	1719-B Seri Dharma Ct	
Adan Trujillo	[illegible]	PO Box 2185 Española, NM 87532	
Duke A. Taylor		PO Box 31194 Santa Fe NM 87594	
Ernest Romero	Ernest Romero	PO Box 16422 Santa Fe, NM 87592	
Claudia Stromberg	C. Stromberg	P.O. Box 188 Ocate, NM 87734	
Elizabeth Britt	E Britt	2385 Camino Capitan #1 SF, NM 87505	

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Name	*Signature*	*Address*	*Email*
TOM GALLEGOS	Tom Gallegos	PO BOX 604 Santa Fe	tgallegos2006@msn.com
Treasa Smith	[illegible]	10 Town Plaza #214 Durango Co 81301	justpeda[illegible]yahoo.com
Barbara Conroy	BARBARA CONROY	934 Dunlap St. SF 87501	bconroy@earthlink.net
Penny Truitt	Penny Truitt	4 Cerrado Rd 87508	pennytruitt@hotmail.com
Beata Tsosie	[illegible]	#93 S. Santa Clara Esp. NM. 87532	
Doug Doran	Doug Doran	804 Orlanid St., S.F.NM 87507	dougdoran60@yahoo.com
Mary Weahkee	Mary Weahkee	P.O. Box 970 Esp. NM 87532	
Nina Mortah	Nina Mortah	PO Box 970 Esp NM 87532	
Jonathon Block	[illegible]	127 Huddleson St., Santa Fe 87501	jblock41@gmail.com
Kathy Glaser-Block	Kathy Glaser Block	127 Huddleson St Santa Fe 87501	maxkat22@gmail.com
Teresa Chavez	[illegible]	1000 San Ildefonso #101 Los Alamos NM-87544	

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Name	*Signature*	*Address*	*Email*
Shawn Knox		5944 Camino Azul	sc-Knox@yahoo.com
Charles Mercer		612 Agua Fria SF, NM. 87501	
Brendan OBrien		815 Camino Don Emilio SF 87507	
Annette Dupree		223 N. Guadalupe St #122 SF N.M. 87501	
Nancy Seewald		3600 Cerrillos Rd 729b SF NM 87505	nlouise78@gmail.com
Lisa Putkey		P.O. Box 508 ~~CACA~~ Chimayo, NM 87522	lisaputkey@gmail.com
Rev. Holly Beaumont		27 Old Galisteo Way	habeaumont@aol.com
ERICH KUERSCHNER		HC 74 Box 24614 EL PRADO NM 87529	erichwwk@gmail.com
Marilyn Hoff		PO Box 295, El Prado, NM 87529	marigayl@netza.com
Basia Miller		2848 Vereda de Pueblo, Santa Fe, NM 87507	bmiller@sjcsf.edu

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Name	Signature	Address	Email
Karen Kencountic	[illegible]	1229 Recluvina St	
Charles FASANARO	[illegible]	226 Las Mananitas	
Doug Lynam	[illegible]	226 Las Mananitas St	
ROWAN JACKSON	[illegible]	2311 Calle BROCHA SF NM 87505	
Deborah Neuberg	[illegible]	113 Ojo de la Vaca	
Rowena Mayes	[illegible]	P.O. Box 31188, SF, NM 87594	

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Name	*Signature*	*Address*	*Email*
Rachel Bliven	Rachel Bliven	120A Valencia Rd. Santa Fe 87505	rachelbliven@gmail
Sue Rouyjansky	Sue Rouyjansky	212 Tohatchi NW ABQ N.M. 87104	
GAIL ANDERSON	Gail Anderson	104 Lugar de Oro SF, NM 87501	
DEANETHA McJILTON	[illegible]	7 COPPER TRL SF NM	
[illegible] McFiey	[illegible]	7 Copper Trl SF NM	

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Name	Signature	Address	Email
Aaron Salazar	[illegible]	798 Calle Ramos	amcs@[illegible]
Tony Isaacs	Tony Isaacs	Box 472, Taos, NM 87571	
Bridgette Kennedy	Bridgette Kennedy	2125 Paseo Primero Santa Fe NM 87501	
David Crocker	[illegible]	125 E Palace Ave #41 SF NM 87501	
Norma Budow	Norma Budow	2138 Candelero SF 87505	
Catherine Steinborn	[illegible]	20812 4th St #3 Saratoga CA 95070	
Louis Skogen	Louis Skogen	58 Camerada Loop S.F., NM 87508	
Brent Jordan	Brent [illegible]	3836 N. 14th Ave Phoenix AZ 85013	
Amanda Montoya	Amanda M[illegible]	21 arroyo seco circle espanola NM 87532	
Teresa Candelaria		3144 Jemez Rd S.F. NM 87507	
Jim Pulco	Joe [illegible]	1001 San Clemente NW ABQ NM 87107	
Barry Milker	Barry Milker	P.O Box 9860 Santa Fe, NM 87504	

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Name	Signature	Address	Email
Eleanore Voutselas	Eleanore Voutselas	4345 Dancing Ground Santa Fe 87507	ellievout@q.com
Leslie Alderwick	[illegible]	P.O. Box ~~646~~ Arroyo Seco NM 87514	
Barbara Conroy	Barbara Conroy	934 Dunlap SFe 87501	
Anna Hansen			
Adele Caruthers	Adele Caruthers	2708 B Herradura SF 87505	
Rebecca Ortega	Rebecca Ortega	P.O. Box 2305 Espanola, NM 87532	
Nora Lee Gregg	Nora Lee Gregg	3471 Cerrillos Rd, #69 NM 87507	
Carla Cooper	[illegible]	504 Alto St. Santa Fe NM 87501	

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Name	Signature	Address	Email
Oak Chezar	[signature]	POB 17 Jamestown 80455	oak@riseup.net
Marcus DeVito	[signature]	224 'E' Maynard st S.Fe. 87501	
GAIL BUONO	[signature]	19 Copper Trl, SantaFe 87508	
Nancy Margiris	[signature]	3373 Ave San Marcos 87507	
JAIME DUGGAN	[signature]	3660 Catalpa Way Boulder, CO	
Jamie Kordack	[signature]	104 Draper Rd., East Brookfield, MA 01515	
PETER TADD	[signature]	57 [illegible] Rd. SantaFe - NM	
Louis Willford	[signature]	5049 N Bard Rd LANSING MI	
Windell Robinson	[signature]	526 1/2 Alvarado Dr SE	
MARY RAY CATE	[signature]	1677 Cerro gordo SF87501	
Jarrod Scarbrough	[signature]	35 Apache Plume Rd 87031	
Julie Whitesell	[signature]	104 Avenida de Velasquez, TAOS NM 87571	
Robert Mac Dryden	[signature]	8 Alcalde Rd. Santa Fe, NM 87508	

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Name	Signature	Address	Email
Jackie Dulle	JACKIE DULLE	2116 CALLE TECOLOTE S.F. NM 87505	jdulle8798@AOL.COM
Flor de Maria Oliva		2140 Candelero St. SF 87505	
Janet Greenwald	Janet Greenwald	215 Hartline SW ABQ NM	contactus@cardnm.org
Dorie Bunting		2332 Smith SE 87106	
Marijke S de Vries		6302 Harper Pl NE ABQ 87109	
Mitzy Kraft		6300 Indian School NE #35 ABQ 87110	mitzi919@yahoo.com
Penelope FORAN		1309 San Jose Ave SE Albuquerque NM	
[illegible]		1925 Five Points SW Albuquerque NM	
Meredith Bunting		3423 Smith Ave. SE apt #1 Abq, NM 87106	
Pat Roach		102 Camino Sabiligo NM 87501	
Carol Miller		5330 N. Central Ave. #17 Phx, AZ 85012	
Mary McCormick		P.O.B. 24188, Santa Fe, NM 87502	
Sheila Gibben		PO Box 1485 Pena Blanca NM 87041	

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Name	Signature	Address	Email
Ethel M. Siegwald	ET ALL SIEGWALD	[illegible] S. Lucille St, Beverly Hills, FL 34465	
Donna Kangeter	Donna Kangeter	205 Adams NE #3 Albq	dkangeter@hotmail.com
MARY NELSON	Mary Nelson	009 Banco Benito S 87025	
Etta S. Smith	Etta S. Smith	118 Camino Santiago, SF NM 87505	
Cynthia Piatt	Cynthia Piatt	169 Camino Santiago, SF NM 87501	
Helen Sutton	Helen M. Sutton	801 Paseo de la Cuma, SF 87501	
Marta Harrison	Marta K. Harrison	103 Cam Santiago, SF 87501	
Lois Simmons	—	122 CAMINO SANTIAG S.F. 87501	
~~Carole Landen~~	~~Carole Landen~~	~~125 Camino Santiago #4 SF 87501~~	(twice)
~~Luella CLAVIO~~	~~Luella Clavio~~	~~101 Camino Santiago SF 87501~~	(twice)
~~Nancy Armbruster~~	~~Nancy Armbruster~~	~~111 Camino Santiago SF 87501~~	(twice)
Madeline Pryor	Madeline Pryor	125 Camino Santiago #1 SF 87501	
Michelle TRUMFIO	Michelle Trumfio	1200 Nakomis Dr NE,	HRHMICHELLE@AOL.COM

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Name	Signature	Address	Email
JUAN MONTOYA	Juan Montoya	1438 Sloan PL SW Alb NM 87105	JMONTCONTRACTOR @MSN.COM
Terry Cosner	Terry W C	218 Iron St Alb.	
WILL COVERT	W. R. Covert	1200 NAKOMIS DR NE ALBUQUERQUE, NM 87112	
ETHAN GENAUER	Ethan Genauer	1925 Five Points Rd SW, Albuquerque NM 87105	
Jason Bohannon	Jason Bohannon	218 Iron st Alb	jabo2x@hotmail.com
Charles R. Powell		P.O. Box 20451, Abq 87154	crp66@juno.com
Bobbie Sue Davis	Bobbie Sue Davis	1925 Five Pts. Rd Abq 87105	BobbieSDavis84@gmail.com
Imani Z. Clements	Imani Z. Clements	Atlanta, GA	imanizc@yahoo.com
Chelsea Collonge	Chelsea Collonge	1925 Five Points Rd SW Abq 87105	
BARB O'Connor	B O'Connor	P.O. Box 22262 SF 87502	
Robert L. Roybal	Robert L. Roybal	57 Cougar Canyon Santa Fe, NM 87508	rlroybal@hotmail.com
DIANE HARRIS ROYBAL	Diane Harris Roybal	57 COUGAR CANYON, SF, NM 87508	
Ann Feighny	Ann Feighny	1058 Village Wy, SF. 87507	

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Name (Print)	Signature	Address	Email
Peter Lapolla	[signature]	106 Camino Santiago SF NM 87501	piper64770@earthlink.net
Nancy Armbruster	Nancy Armbruster	111 Camino Santiago SF NM	narmbruster@msn.com
Joe Armbruster	[signature]	111 Camino Santiago SF. NM 87501	
Margaret Burlingame	Margaret Burlingame	112 C. Santiago	
Luella CLAVIO	Luella Clavio	101 Camino Santiago, SF, NM 87501	
Lowelle Simms	Lowelle Sims	122 Camino Santiago SF NM 87501	
S Pryor	[signature]	1137 NW 34th OKC, Ok 73118	
Mary Pugh	Mary Pugh	8805 NW 114th St. OKC, OK 73162	
SANDRA SCHANK	[signature]	8 Firerock Place Santa Fe, NM 87508	
Susan Charmley	Susan Charmley	3856 Ladera Dr. NW Albuquerque, NM	
CAROLYN WHEAT	Carolyn Wheat	3856 LADERA DR. N.W. Albuq. NM.	
KAREN KNOLL	Karen Knoll	30 Zuni Ct Jemez Springs NM 87025	
Delores Kincaide	Delores Kincaide	3 Cebolla Loop, Jemez Springs NM 87025	

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Name (Print)	*Signature*	*Address*	*Email*
Madonna Day	Madonna Day	1205 Claytonia Terr. St Louis 63117	dday@lorettocommunity.org
CAROLE LANDESS	Carole Landess	125 Camino Santiago #4 S.F. NM, 87501	carole.landess@gmail.com
Elizabeth Reed	Elizabeth Reed	110 Cam. Santiago	
Hella Neumann	Jisela Neumann	125 Camino Santiago #2	info@songsoftheancestors.com
ADRIANNE Ewing	Adr E	104 Cam. Matias	Fab1artist@aol.com
Dorothy Ann Callom	Dorothy A. Callom	117 Camino Santiago	dacallom2@msn.com
Barbara Silverman	B Silverman	120 CAMINO MATIAS	
ROY SILVERMAN	Roy Silverman	120 CAMINO MATIAS	
NANCY GILCHRIST	Nancy Gilchrist	105 Camino Matias	
DEBRA RECECONI	Debra Receconi	12 White Boulder Ln SF. 87506	
MaryAnne Fowlkes	Mary A. Fowlkes	114 Camino Santiango 87501 SF	
Betty P CAUTHORNE	Betty P. Cauthorne	121 Camino Santiago 87501, SF	
Richard K. Avery	Richard K. Avery	119 Camino Santiago Santa Fe, NM 87501	

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Name	*Signature*	*Address*	*Email*
Jessica Brewster		724 Juniper Dr. SF	
P.C. JAROS	P.C.	212 E. Mary #7 87501	
Alex McDonough		1320 Maclovia st	
N. HARNISH		104 LUGAR DE ORO SF 87501	
Patty conway			conway-patty@yahoo
Sheridan Phillips	Sheridan Phillips	3224 Casa Rinconada SF 87507	
Ray Corliss	Ray Corliss	1371 CERRO GORDO 87501	
Ottie Elan	Ottie Elan	13404 Auburn AVENE 87112	
Barbara Sinha	Barbara Sinha	132 Camino Los Abuelos, SF 87508	
Jan Johnson	Jan Johnson	PO BOX 31864, SF, NM 87594	
Jim KLURFELT		11 W. Gutierrez Unit 3613 SF, NM 87506	
Michael Gregory		107 Paseo Del Pinon SF, NM 87508	
Richard Stangarone		107 Pase Del Pinon SF, NM 87508	

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Name	*Signature*	*Address*	*Email*
ELISA AND	Elisa Aind	551 W. Cordova #344 Santa Fe 87505	
Mike Odom	Mike Odom	P.O. Box 595, Arroyo Seco N.M. 87514	
RJ. PFAMMATTER	[illegible]	PO Box 1915 121 Prado N.M. 87529	
JOHANNE RUDDICK	Johanne	54 CAMINO TREE FROG VADITO 87579	
Carl Struck	Carl Struck	54 Camino Tree Frog, Vadito NM 87579	
Maria B. Turner	MB Turner	351 Vegas de Taos Circ. Taos NM	
Kim M BUEHRE	K. Bu	226 ESPINOZA RD RdT. NM 87557	
Ellen Brodsley	Ellen Brodsley	PO BOX 1102, Taos, NM 87571	
NONA LEE GREGG	Nona Lee Gregg	3471 Cerrillos Rd #69 87507	
Merry Schroeder	Merry Schroeder	757 Placita Santa Fe. Santa Fe, NM 87505	
Elliott Hammans	Elliott Hammans		
James Leehan	James Leehan	7047 Vuelta Vistoso Santa Fe, NM 87507	
TINA H. BLACKBURN	Tina H Blackburn	4 JOYA CT SANTA FE, NM 87508	

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Name	*Signature*	*Address*	*Email*
Ann Suellentrop	Ann Suellentrop	1865 S. Pyle St, KCKS 66103	annsuellen@gmail.com
Gloria Nouel	[illegible]	1895 Alpine Ave 832-Boulder	
Cody Spyker	Cody Spyker	1128 Bennett Ave. GWS CO 81601	cspyker@students.naropa.edu
Megan Drimal	[illegible]	PO Box 2012 Boulder CO 80306	mdrimal@absaroka.org
JAY C. HORMEL	JCH	6020 JAY RD. BOULDER, CO 80301	jchormel@gmail.com
JANE DALRYMPLE-HOLLO	Jane Dalrymple-Hollo	3336 14TH ST. 80304	JDHollo@GMAIL.COM
Molly Long	M Long	3100 34th St B-29 Bldr CO 80301	Molly.Long@colorado.edu
KATHLEEN SULLIVAN	Kathleen Sull	270 21st APT 3 Bk, NY 11215	edna@bestweb.net
Robt DEL TREDICI	[illegible]	544 Beaurepaire Beaconsfield QC Canada H9W3E2	bdeltredici@hotmail.com
Seth Schlotterbeck	Seth Schlotterbeck	215 Linden Dr Boulder, CO 80304	seth.schlotterbeck@gmail.com
Pinar Toy	[illegible]	602 Alpine Ave. Boulder, CO	sacredgaiawarrior@gmail.com
Karen Foglesong	KF	7129 Baltimore KCMO 64114	karenfoglesong@kc.rr.com
Mary Ellen McCarry		Boulder, Colorado	memccarry@usa.net

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Name	*Signature*	*Address*	*Email*
[illegible]	[illegible]	PO Box 5851, SF	[illegible]@aol.com
Charlotte Binx	[illegible]		Char.binx@Gmail.com
MARK LICHT	[illegible]	1012 MARQUEZ PL SF NM 87505	
KATHLEEN CHRISTISON	Kathleen Christison	23 CAMINO SUDESTE SANTA FE, NM 87508	KB.CHRISTISON@EARTHLINK.NET
Eduardo Krasilovsky	[illegible]	17 Lucero Rd. SF 87505	tortuso@GNSP.com
Barbara Belding	BARBARA BELDING	1350 FERGUSON LN	Bbelding2002@yahoo.com
Chedza Ndlovu	Chedza Ndlovu	1350 Ferguson LN 87505	naomindlovu@ymail.com
Sarah Arden	[illegible]	804 Alarid St SF NM	skiprincess873@hotmail.com
Samantha Kowalisyn	Samantha Kowalisyn	804 Alarid St. SF, NM 87505	skowalisyn@gmail.com
Edward Archuleta	Edward Archuleta	3841 Cerrillos Rd SF NM 87507	edarchuleta@aol.com
James Podesta	James J Podesta	2920 BONITO CIRCLE Santa Fe, NM 87507	
Paige Kitson	Paige Kitson	804 AlaRid ST, SF, NM 87505	paigeleighkitson@hotmail.com
Evan McWilliams	[illegible]	804 Alarid St, SF NM 87505	[illegible]@gmail.com

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Name	*Signature*	*Address*	*Email*
Ron Marchese	[illegible]	123 De Teves Ln Taos 87571	
Barbara Hatfield	[illegible]	Box 3156 Taos NM	BHspeak@gmail
Margarita Denevan	Margarita Denevan	PO Box 445 Arroyo Hondo, NM	micuaro@taosnet.com
William Panzer	[illegible]	34 Archuleta Rd eT 87557	
Melissa Larson	[illegible]	PO Box 1031 Ranchos de Taos 87557	
Bonnie Korman	BONNIE KORMAN	POB 80 TAOS, NM 87571	
Nancy Johnson	Nancy Johnson	226 Espinoza Rd, Ranchos de Taos 87557	janaki_123@msn.com
Stuart Overbey	[illegible]	14 Siempre Verde NE Albuquerque NM	
TANIA ZIVKOVICH	[illegible]	PO BOX 552, Chimayo NM 87522	
KAY SOLOMON	Kay Solomon	HCR 74 Box 24807 EL PRADO NM 87529	
HARVEY Solomon	Harvey Solomon	HCR 74 Box 24807 El PRADO NM 87529	
TONY ISAACS	Tony Isaacs	BOX 472, TAOS, NM 87571	music@indianhouse.com

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Name (Print)	Signature	Address	Email
Eileen O'Brien	[signature]	29 Tahoma Rd Lex 40503	
LINDA HARRIS	Linda Harris	429 Holiday Lex., 40502	
Gwen Phillips	[signature]	201 Lake Shore Dr Lex Ky 40502	
Amy Evans	Amy E. Evans	264 St. Ann Dr. Lex, Ky 40502	
Alice Carver	Alice Carver	560 Severn Way, LEXINGTON, KY 40503	
Mary Henson	[signature]	562 Stratford Dr Lex, KY 40503	
KATHY BABB	Kathleen Babb	140 MAIDEN LN VERSAILLES KY 40383	
Philip Anderson	[signature]	10414 LONG HOME Rd., Lou., KY 40291	
ANN ANDERSON	Ann A Anderson	"	
Julio Ramirez	[signature]	2805 Ave of the Woods Louisville KY 40241	
MARIELA RAMIREZ	[signature]	2805 Ave of the Woods Louisville Ky 4024	
LUPE ARCINIEGA	[signature]	515 NERINX RD NERINX, KY 40049	
Dr. Irene Villarreal	Irene Villarreal	P.O. Box 6 St. Francis, Ky	4dr.irene_villarreal@[illegible]

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Name (Print)	*Signature*	*Address*	*Email*
Mary C. Leibman	Mary C. Leibman	515 Nerinx Rd.	
Judith Baenen	JUDITH BAENEN	1050 E. Amherst Ave	80113
Prudence Moffett	P. Moffett	515 Nerinx Rd.	40049
Virginia Ann Driscoll	X	515 Nerinx Rd	40049
Mary F. Lottes	Mary F. Lottes	515 Nerinx Rd	40049
Janet Rabideau	Janet Rabideau	515 Nerinx Rd	40049
Edith A. Jaeger S.L.	Sister Edith A. Jaeger	" " "	"
S. ALICE EUGENE TIGHE	Sister Alice Eugene Tighe	" " "	"
ELAINE PREVALLET	Elaine Prevallet SL	515 Nerinx Rd	Nerinx KY 40049
Barbara Croghan	Barbara J Croghan	515 Nerinx Rd	Nerinx Ky. 40049
Margaret Ann Hammond		"	"
Jane Clark		"	"
KAY CARLEW	Kay Carlew	515 Nerinx Rd	Nerinx, Ky. 40049

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Name (Print)	*Signature*	*Address*	*Email*
Katherine Feely	K Feely	13000 Auburn Rd	Kfeely@ndec.org
Natalie Wing	Natalie W	~~515~~ 515 Nerinx Rd	nataliewing2003@yahoo.com
CECILY JONES	Cecily Jones	515 NERINX RD. NERINX, KY 40049	CJONES@LORETTOMOTHERHOUSE.ORG
Margaret R. Knoll		ky	
JUDY POPP, SL	Judy Popp SL	515 NERINX RD, NERINX KY 40049	
LOIS DUNPHY, SL	Lois Dunphy, SL	515 NERINX RD, NERINX, KY 40049	
PAULINE ALBIN, SL.	Pauline Albin, SL.	515 NERINX RD., NERINX, KY. 40049	
Jeannette Donnelly	Jeannette Donnelly	515 Nerinx Ky	
Eva Marie Salas	Eva Marie Salas	515 Nerinx, KY 40049	
Elizabeth Croom	Elizabeth Croom	515 Nerinx Road Nerinx KY 40049	
Theresa L. Coyle	Theresa L. Coyle	515 Nerinx Rd. Nerinx Ky 40049	
Angelus Caron	Angelus Caron	515 Nerinx Rd Nerinx KY 40049	
MARY SWAIN	Mary Swain	515 Nerinx Rd Nerinx Ky 40049	

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Name (Print)	*Signature*	*Address*	*Email*
Claudette LoPorto	C. Lo Porto	515 Nerinx KY	—
Katherine A. Heinz	Katherine A. Heinz	515 Nerinx KY	
JoAnn Gates	JoAnn Gates	515 Nerinx Rd. 40049	
JANE CLARK	Sr. Jane Clark	515 NERINX RD. 40049	
CAROL DUNPHY	Carol Dunphy	515 NERINX Rd. 40049	
Susan Classen	Susan Classen	515 Nerinx Rd. 40049	
Mary Judith Brown	Mary J. Brown	515 Nerinx, Ky.	
MARY GENEVIEVE	Mary Genevieve Cavanaugh	515 Nerinx, KY 40049	
PATRICIA TONER		515 Nerinx Rd. 40049	
Lydia Peña	Lydia Peña	3101 W. Hillside Pl, Denver, CO 80219	
Pat Hummel	Patricia Hummel	515 Nerinx Rd 40049	
Eileen Custy	Eileen Custy	515 Nerinx Rd 40049	
ANTOINETTE DOYLE	Antoinette Doyle	515 NERINX Rd 40049	

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Name	Signature	Address	Email
Elizabeth Comeaux	Elizabeth Comeaux	1663 Steele St #901, Denver CO 80206	
Sharon Kassing	Sharon Kassing	5445 Chippewa #5	
Mary Catherine Rabbitt	Mary Catherine Rabbitt	1602 S. LAMAR ST LKWD CO 80232	
Mary Ann McGivern	Mary Ann McGivern	3865 Hartford St Louis, MO 63116	maryann-mcgivern @yahoo.com
Maureen Smith	MAUREEN Smith	5909 Ridgeway Kansas City, MO 64133	KcMaurn@yahoo.com
Maureen O'Connell	Maureen O'Connell	P.O. Box 448 Jacksboro, Tn. 37757	maureenoconnell25@gmail.com
Anna Koop	ANNA KOOP	2420 WELTON ST.	AKOOPSL@JUNO.COM
Catherine Mueller	Catherine Mueller	7250 W 21st Ave Lakewood, CO 80214	cmueller@lorettocommunity.org
Marie L Ego	Marie L Ego	7250 W 21 Ave Denver 80214	mego@lorettocommunity.org
Carole Eschen	Carole Eschen	2544 Cherry St. KCMO 64108	ceschen@kcocademy.org
Betty McWilliams	Betty McWilliams	2565 S. University #710 Denver, CO 80210	
Natalie Wing	Natalie Wing	515 Nerinx KY	nataliewing2003@yahoo.com
Ann David Naeger	Shirley Ann Naeger	515 Nerinx KY	

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Name (Print)	Signature	Address	Email
ELIZABETH PEREZ	Elizabeth Perez	2980 St Rose Rd, Apt A Lebanon, Ky 40033	
Catherine I Madden	Catherine I. Madden	321 E. Siena Hts Dr. ADRIAN, MI 49221	Kittynewmoon@gmail.com
Pam McBRIDE	P. McBride	515 NERINX NERINX, KY 40049	pamela.mcbride@att.net
Susan Brotto	Susan Brotto	Gravel Switch Ky 40328	—
Alma Schuler	X	515 Nerinx Nerinx Ky 40049	—
Karen Madden	(Karen Madden)	515 Nerinx Nerinx Ky 40049	
Clare Gray	Clare Gray	1041 Harkin Dr. Cincinnati OH 45240	grayc@berea.edu
[illegible]	[illegible]	101 Chestnut St CPO 46 Berea KY	
Natasha Smith	Natasha Smith	101 Chestnut St CPO 1527 Berea, KY 40404	smithna@berea.edu
Courtney Matthews	Courtney Matthews	101 Chestnut St. CPO 1127 Berea Ky 40404	
Grace Hair	Grace Hair	101 Chestnut St. CPO 696 Berea, KY 40404	
Cassidy Franklin-Dutton	Cassidy Franklin Dutton	101 Chestnut St. CPO 538 Berea Ky 40404	
CAROLYN L. JARAMILLO	Carolyn Jaramillo	524 Manor Dr. PACIFICA, CA 94044	

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Name (Print)	Signature	Address	Email
Jane Thorley Roeschley	Jane Thorley Roeschley	805 S Cottage Ave, Normal IL 61761	jane@normalmennonite.org
Mary J. Cross	Mary J. Cross	200 17th Vlg. #6 Moundridge, KS	mjcross@mtelco.net
STANLEY KROPF	Stanley Kropf	337 E Beardsley, Elkhart, IN	sekropf@gmail.com
Kathleen Springer	Kathleen Springer	40364 E 600 N. Rd. Saybrook, IL	kkspringer@conxxus.com
Jana Schopp	Jana Schopp	2111 Woodbine Bloomington, IL	rjmschopp@comcast.net
Sara Wengerd	Sara Wengerd	1627 Spring Brooke Dr., Goshen, IN	slwengerd@frontier.com
Susan Ortman Goering	Susan Ortman Goering	1339 Ashland Ave, Col, Oh 43212	sogoering@sbcglobal.net
Val Kliewer	Val Kliewer	613 Mark Pearce Ave Winnipeg, MB R2G 0G6	
Bob Smith	Bob Smith	21 Wolfbrook Circle Iowa City IA 52246	richersmi@aol.com
GENE CASKEY	Gene Caskey	1615 South 8th St Goshen, Ind.	
Cheryl Lehmann	Cheryl Lehmann	4405 E. Pepper Ridge Cir. Sioux Falls, SD 57103	
LOUISE WIDEMAN	Louise Wideman	431 S. Jackson Bluffton, OH	
Sue Steiner	Sue Steiner	#23-206 Candlewood Cr. Waterloo, ON.	

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Name (Print)	Signature	Address	Email
Tricia Taylor	Tricia Taylor	604 Chestnut St. Berea KY	taylorpa3@berea.edu
Chingyen Chang	Chingyen Chang	103 Kayla Dr. #6 Berea, KY	changc@berea.edu
Jonathan Clark	Jonathan Clark	118 Washington Ave Berea	
Antonio Bill	Antonio Bill	101 Chestnut St. CP171 Berea KY	billa@berea.edu
James Wilder	[illegible]	121 W. Main Oak Ridge, TN 37830	wilderja@berea.edu
Martha Savage	Martha Savage	101 Chestnut St. Berea KY CPO 1416	savagema@berea
Anna Stukenberg	Anna Stukenberg	CPO 1530 Berea, KY 40404	stukenberga@berea.edu
ZACHARY DANNEMAN	[illegible]	101 Chestnut St. CPO 431 Berea, KY 40404	slossfurnaces@yahoo.com
Loreal Bell	Loreal Bell	101 Chestnut St. CPO 86 Berea Ky 40404	belll@berea.edu
Patricia A Schloemer	Patricia A Schloemer	5300 Hamilton Ave, #1606 Cincinnati OH 45224	pschlo39@fuse.net
GEORGE R SCHLOEMER	George R Schloemer	5300 HAMILTON Ave #1606 Cin Oh 45224	
Mary Anne Reese	Mary Anne Reese	2414 Grandview Ave, Cinti OH 45206	
Marie Epp	Marie L Epp	7250 W 21 Ave Lakewood CO 80214	

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Name (Print)	Signature	Address	Email
CAROL PTACEK	Carol Ptacek	515 Nerinx Rd, Nerinx, KY 40049	
Martha Hinton	Martha Hinton	410 Locust St. Springfield Ky 40069	
ELIZABETH B. MITCHELL	Elizabeth B Mitchell	708 Leawood FRANKFORT Ky 40601	
BARBARA FINNERAN	Barbara Finneran	415 Church St. NASHVILLE, TN 37219	-no mailing list.
Deborah Knost	[illegible]	940 W Dunbrook Peoria IL 61615	"
Faye yaste	Faye yaste	240 Holy Cross Rd Loretto, Ky 40037	" " "
MARY DUENNES	Mary M. Duennes	4427 DUNEDON AVE. CINTI, OH 45236	mduennes@att.net
KATHLEEN NOONAN	Kathleen Noonan	3518 SAYBROOK AVE. CINTI, OH 45208	
Virginia Brown	Virginia Brown	1857 Alfresco Pl, Louisville, Ky 40205	
Janet Montgomery	J Montgomery	13 Rawson Woods Cr Cincinnati OH 45220	
CAROL T. YEAZELL	Carol T. Yeazell	10115 WINSTEAD LN. CINCINNATI, OH 45231	
Patricia Joyce	PATRICIA JOYCE	4606 Trowbridge Apt. 2 El Paso, TX 79903	
Marie L. Steckler	Marie L. Steckler	515 Nerinx Road Nerinx, KY 40049-9998	

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Name (Print)	*Signature*	*Address*	*Email*
Mag Richer Smith	Margaret Richer Smith	21 Wolfbrook Circle, Iowa City, IA 52246	Richersmi@aol.com
VICTOR KLIEWER	V. Kliewer	613 Mark Pearce Ave., Winnipeg MB Canada R2G0G	
Wesley Newswanger	Wesley Newswanger	103 Circle Rd. Lancaster PA 17601	
Janet M. Breneman	Janet M Breneman	103 Circle Rd, Lancaster PA 17601	
Marlene Y Kropf	Marlene Y Kropf	334 E. Beardsley Ave. Elkhart, IN 46514	
Carole Eschen	Carole Eschen	2544 Cherry Kansas City, MO	
KAY CARLEW	Kay Carlew	515 Nerinx Rd Nerinx, KY 40049	
Jeanne Sabet	Jeanne Sabet	3568 Knollwood Ln Akron, Ohio 4433	
Jan Hallman	Janice Hallman	5355 ANDERLIE LANE ST. PAUL, MN 55110	
LISA REYNOLDS	Lisa Q Reynolds	1672 Adams ST DENVER, CO 80206	LISANZAC7@g.COM
Delores Kincaide	Delores Kincaide	3 Ceballa Loop, Jemez Springs NM 87025	
Angela BIANCO	Angela Bianco	425 Elizabeth Rd YORKTOWN Hgts NY 1059[illegible]	
Valerie Novak	Valerie Novak	590 E. Lockwood St. Louis, MO 63119	

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Name	Signature	Address	Email
Betsy Conover	[illegible]	1421 Miracerros Ln. S. 87505	
HARRY R. HARRIS	Harry R. Harris	174 Tesuque Village Rd. 87574	avistapurcpa@yahoo.com
CAROLINE LADIE	[illegible]	12 Paseo De San Antonio 87507	caroline@cnsf.com
Bruce [illegible]			
JEANETTE BUCK	Jeanette Buck	1530 Hickox St. #2 Santa Fe, NM 87505	
RASHA SANDRELL	[illegible]	PO Box 23882 SF 87502	
DAVID McCoy	D McCoy	PO Box 4276 Abq. NM 87196	
Sylvianal Diaz d'Quville		PO Box 7143 Albq, NM 87194	
Sarah Crawford	Sarah Crawford	919 Tieran Ct. NE Abq, NM 87112	
Camy Condon	CAMY CONDON	522 Deborah Los Lunas 87031	
Bob Press	Bob Press	901 adams SE Abq NM.	
Marlene Quintana		210 Rencher Ave. SE 87105 Alb.	
Tara Somerville	[illegible]	PO Box 1784 El Prado NM 87529	

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Name	Signature	Address	Email
Justin Allred	[signature]	2033 Calle Lorca #36 Santa Fe, NM	frzamonkey@gmail.com
Irene Joyce	[signature]	21-A Likely Rd. SF, NM 87508	
Jane Napier	[signature]	1719 Callejon Cordelia SFe 87501	
Renee Castagnola	R Castagnola	806 E. Palace B SFe 87501	
[illegible] Francis Bliven	[signature]	no A Valencia Rd Santa Fe 87505	
Gary Juracek	Gary Juracek	187 A Sunrise Rd S.F. NM 87505	
Rosemary Tucker	R Tucker	2304 Calle Cota SF NM 87507	
Turner Resor	T Resor	509 Camino Sierra Hombre Santa Fe, NM 87505	
Stephanie Smith	Stephanie Smith	919 Don Juan SF, NM 87501	
Cathy Smith	CA Smith	20A Summer Rd. SF, NM 87506	
Heather Bradley	[signature]	1204 Canyon rd ~~Los Alamos~~ SF, NM 87501	
Sarah Hesse	[signature]	701 Paseo de la Loma SF NM 87501	
Amy Dondrio	[signature]	1940 Paseo Norteno SF NM 87507	

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Name	*Signature*	*Address*	*Email*
GORUS BJX	[illegible]	HCR74BOX22U28 El PRADO NM 87529	nokiDSJUSTPETS@gmAIL.com
Mellers, B	[illegible]	601 W San Mateo, 87505	Lcarame@ msn
Stephenson, David	[illegible]	40 Twisted Pine, Cerrillos 87010	adobadave@gmail.com
LuAnn Wosick	[illegible]	3 Crystal Mesa Rd, SantaFe 87508	lwosick@gmail.com
HOWARD MANOFF	[illegible]	24 VUELTA SUSANA S.F. 87506	
Bea Davis	[illegible]	56 Verano Loop Santa Fe, NM 87508	
Tish Wilson	[illegible]	40 Twisted Pine Cerrillos, NM 87010	tishwilson1@gmail.com
Richard Graham	[illegible]	2985 Plaza Blanca, SantaFe, NM	
Pieke Hogenboom	[illegible]	59 Dancing Horse Rd Madrid NM.	
Marc Hogenboom	[illegible]	59 Dancing Horse Rd Madrid NM	
Tomoko Ryan	[illegible]	POB 1594 Cedar Crest NM 87008	
Jeanne Green	[illegible]	11 Los Padillas Rd #13 El Prado NM 87529	
Marilyn Hoff	[illegible]	PO Box 295, El Prado NM 87529	margayl@netzero.com

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Name	Signature	Address	Email
Robert Carman	[signature]	HC 64 Bx 12-15, Santa Cruz NM 87567	rocar14@hotmail.com
Sheila Cooper	Sheila Cooper	P.O. Box 317, Alcalde, NM 87511	
Paula Seaton	Paula Seaton	PO Box 144, Embudo, NM 87531	pinta.seaton the gmail
Ann Hendrie	Ann Hendrie	HCR 65 Box 44 Ojo Sarco NM 87521	ahh.funny@wildblue.net
Sara Pene	SARA PENE	PO BOX 103 DIXON NM 87527	
Joan Logghe	Joan Logghe	12C Eckards WAY Espanola 87532	joanlogghe@gmail
W. Ross	W. Ross	POB 1176, Crestone, Co 81131	
Emmy Koponen	Emmy Koponen	PO Box 456 Dixon N.M. 87527	emmykoponen@gmail
Julie Pratt	Julie Pratt	PO Box 957, El Prado NM 87529	
Carole Crews	Carole Crews	HC 78 Box 9811 Ranchos de Taos 87557	
KENNETH ESKEBAEK	Kenneth Eskbaek	P.O. Box 308 EL PRADO NM 87529	
LINDA HONE	[signature]	PO Box 246 TAOS, NM 87571	
Jim Boyer	Jim Boyer	815 Rio Vista St. SFe NM 87501	

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1

PUBLIC HEARING

DRAFT CMRR SEIS

CMRR AT TECHNICAL AREA 55 (LOS ALAMOS)

Marriott Hotel

2101 Louisiana Boulevard, Northeast

Albuquerque, New Mexico

May 23, 2011
5:00 p.m.

REPORTED BY: Beverly Ann Schleimer, RDR NMCCR #66
Mary Abernathy Seal, RDR CRR NMCCR #69
Bean & Associates, Inc.
Professional Court Reporting Service
201 Third Street, Northwest, Suite 1630
Albuquerque, New Mexico 87102

JOB NO.: 1165K BEV/MARY

SANTA FE OFFICE
119 East Marcy, Suite 110
Santa Fe, NM 87501
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PROFESSIONAL COURT REPORTING SERVICE

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Albuquerque, NM 87102
(505) 843-9494
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1-800-669-9492
e-mail: info@litsupport.com

Response side of this page intentionally left blank.

Comments from the Albuquerque, New Mexico Public Hearing (May 23, 2011)

(5:30 p.m.)

MR. MacALLISTER: Good evening. My name is Bruce MacAllister. Welcome. This is the first public hearing for the Draft Supplemental Environmental Impact Statement for the Los Alamos National Laboratory Chemistry Metallurgy Research Replacement building, the nuclear facility portion. Pardon me, I've grown up in Colorado, and we often say nuclear. So if I stumble, you'll know that I know better.

My name is Bruce MacAllister. I'm the senior principal at a firm called Business Excellence Solutions. This firm and myself do community meeting facilitations. We're all conflict resolution specialists and organizational excellence consultants. We work with a variety of organizations, large and small, to resolve conflict, and to help optimize efficiencies in those organizations.

It's my pleasure to welcome you here tonight. My role for the meeting tonight will be to be your facilitator and moderator, insofar as I will be conducting the flow of the meeting.

I'm going to go through carefully some ground rules. And typically I work a little more

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informally on the ground rules, but because we're doing four officially recorded meetings, it's important that the ground rules are consistent meeting to meeting.

So I will work through these with you, so that the understandings for tonight, the expectations and understandings for tonight's meeting are clear to you all.

And remember, if you care to speak at tonight's meeting, at the mike for recording now, please fill in a card at the registration table, and we will be taking those comments in order once received after we hear from any elected officials, and I'll go through that in more detail in just a minute.

The order of the meeting will be, I'll go through the ground rules. We're going to have a brief presentation by Mr. Tegtmeier, who's the public document manager for the program. Then we will have comments through the duration of the meeting.

The comments initially will be limited to five minutes a person; however, if you feel like you need to make another comment, if there's sufficient time after we cycle through the first round of comments, you are more than welcome to make another

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comment.

Let me remind you that there are a variety of options available to you for completing or providing comments on the program. There are computer stations in the back corner there. There's a kiosk of facilities for taking your comments electronically. You can fax comments. The fax number will be available. There's a poster that describes all of the different ways that you can make your comments. And there's a second court reporter back there for verbal comments.

So there's a multitude of ways that you can get your comments in the official record, besides speaking here at the mike.

We will be first asking for comments from federal elected officials, followed by state, county, municipal, and tribal governments, in that order. And then we will be taking your comments based on the order in which you registered.

Based on the number of participants here tonight, it looks like we will be able to allot for the initial round of comments five minutes per comment. So I will be giving you a little bit of a heads-up at about 30 seconds towards the end of your comment, and then I'll ask you to yield the mike at

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the conclusion of your five minutes, if you need the full five minutes.

Again, I've mentioned the poster session. Folks will continue to be available back there.

The focus of the hearing tonight is to receive comments. That it's not to engage in debate with one another. It is not to engage in debate with subject matter experts. We are here to answer technical questions, not to justify national policy or to defend decisions that are made at higher levels in the nation, either by Congress or by senior administration officials.

So, I would ask you, if at all possible, to keep your comments focused. You are certainly free to make any comments you wish, but the comments that are most useful for us tonight will be focused on the Environmental Impact Statement for the facility, as I mentioned.

Any discussions that go on in the back of the room with the subject matter experts are not a matter of the official record. The official record will either involve the comments that were received at the kiosk, or they are comments that were received at the mike.

If we run out of time tonight, for any

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reason, there are three other meetings scheduled. There is a handout in the poster area that describes the meeting locations, one in Espanola, one in Santa Fe, and one in Los Alamos.

And the comment session -- the comment period for this Supplemental Environmental Impact Statement runs through June 28th. So, there is ample time to make those comments.

As far as actually conducting our conduct in the meeting tonight, a couple of ground rules, please wait until I invite you to the mike. I will be inviting one person and letting another person know that they're next, so that they can be prepared to come up, so we have minimal lag time between the comments.

And because we're transcribing these comments, it's very important that the audience remain civil and quiet, so that we can get the comment recorded. One comment at a time without interruption, please. Please identify yourself before speaking. Please abide by the time limits. If we start getting close to your time, I will ask you to yield the mike, and if we have time, I will -- we will make accommodation for you to make a second statement.

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And as a final reminder, please, let's remember that this is a public hearing, that what we're here to do is model civil dialogue. We're here to model interpersonal civility and mutual respect. And in that vein, let's keep our language appropriate for a publicly-recorded meeting.

And, finally, let's make sure that our cell phones and anything else that might make intrusive noise while others are commenting are silenced.

And without further ado, I'd like to introduce the document manager for the project, John Tegtmeier.

MR. JOHN TEGTMEIER: Good evening. Welcome everyone, and I appreciate everyone's attendance. This is very important to us, these public hearings, and the entire process for receiving comments on the draft document, important role.

In one of the -- the two areas that is my prime responsibility as document manager; number one, is to manage the preparation of the document, and meet all of NEPA requirements and procedural requirements required by law. But I believe my most important is to encourage and facilitate public interaction in the process. And for that, I really appreciate everyone coming this evening. And I take

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that second role very seriously in fulfilling my duties.

I wanted to give just a very brief background of the NEPA history, the National Environmental Policy Act history on this project, and then talk a little bit about what you might see in the document, and then lead you to the end of the comment period.

Back in 2003, we did an Environmental Impact Statement for this facility, the CMRR facility. That was issued in November of 2003.

In early 2004, the NNSA issued a record of decision that decided upon, based on the environmental assessment, environmental analysis of the various alternatives, they selected a preferred alternative, which is a two-building concept at TA-55, and that's adjacent to the current facility.

So the first building is actually completed. There's some information on the posters back there. That's the radiological laboratory facility office building, that's being outfitted right now. So these people will be moving into the facility very shortly. And the second building is currently in design.

And Bruce mentioned to us the nuclear

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facility portions. That will be the second building.

Since the time that we prepared the Environmental Impact Statement and the Department issued the record decision, we did some additional geological mapping at the site, and there's some photographs on the poster down there, at the poster sessions, where they basically looked at fracture mapping in the exposed face of the tuff there at the side.

They also did bore hole drilling, and they determined the presence of a layer that's at some depth beneath the proposed facility location.

In addition to that, they did an update to the seismic study of the conditions at Los Alamos National Laboratory, specific in there to TA55 where the plutonium facility's located, and Technical Area 3, the main technical area of the laboratory. And that resulted in an increase in the horizontal ground motions and vertical ground motions associated with earthquakes at various return periods.

So, that was new information available to the designers and to the Department, and as part of the NEPA process is to periodically review new information that's available. And based on that, the Laboratory prepared a supplement analysis and

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submitted that to our office, at Los Alamos Site Office in the middle of the summer.

And, in part, based on that, the NNSA decided to go ahead and prepare a Supplemental Environmental Impact Statement for the project. And that decision was made, like I said, in the late summer.

So we set up a series of scoping meetings. We had two scoping meetings; one in Los Alamos, one in Pojoaque, in early October of last year.

The Notice of Intent to prepare the Supplemental EIS was issued in the Federal Register on October 1st. So, the comment period extended through the middle of November. We got some very good scoping input.

So, the document that is before us now, the Draft Supplemental EIS, is a culmination of the work since essentially October 1, and that's reflected in the document.

Now, as part of the analysis -- we had to look at some new analyses. There's some new requirements to look at various things, like greenhouse gas emissions from various operations, both construction and operations of the facilities. And we also had to do an intentional destructive act

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analysis, potential consequences of a terrorist attack, or something of that nature.

And also wanted to do a specific transportation analysis of the demolition waste from the existing chemistry-metallurgy replacement, I mean, CMR research Building at Los Alamos.

And we also updated analyses in areas of -- obviously, the construction impacts, because to meet the new requirements for seismic and geological features at the site, we had to beef up the structural strength, and do some other nuclear safety type enhancements to the design.

We've also updated the operations impacts, not only for the proposed project, but since we're going to be in the CMR Building for a longer period of time, we also updated the environmental impacts of operations of that facility, as well as the RLUOB facility, which is complete, and will be in operation shortly.

We also updated the accident analyses for both the existing CMR Building and the new proposed facility.

And we also updated the human health impacts due to operations.

There were some changes in the way the

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modeling is done. And we also incorporated the stuff we could, the latest census data. That isn't all in yet, but we took the information most current at the time.

Now, the alternatives that we have currently in the draft EIS is to construct and operate the nuclear facility portion as we selected 2004 record of discussion.

So, that's in our no-action alternative, in the context of we would not change past decisions made in NEPA. So that's why it's the no-action alternative.

We also looked at the modified CMRR Nuclear Facility alternative. And that was originally started with just one construction option, and that was the deep excavation option, which would involve going down into that layer of volcanic tuff that was not structurally as strong as we believed it needed to be. But in the course of looking into that further, we also identified a shallow excavation option. It would be the same facility located on the same footprint, but raised higher up in the geologic strata, so as to not require the digging out and refilling that additional excavation with clean concrete.

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Then the last alternative is the continued use of the CMR Building alternative, which is basically a no construction option alternative. And we would continue to perform the limited capabilities in the existing building for as long as we could without major upgrades.

So those are all action alternatives and the no-action alternative.

We posted the Draft Supplemental EIS on our NNSA web page on April 22nd of this year. And that was followed a week later by the EPA publishing and giving a Notice of Availability of the draft document to give public comment on April 29.

And at that time, the comment period was a 45-day comment period. And subsequent to, that based on some requests, the NNSA decided to extend that comment period by 15 days, and that decision was made on May 6th, and that information was posted and distributed to various media, and now the public comment period that Bruce mentioned, up to June 28th. So I encourage all of the individuals who wish to comment, to participate in the process and prepare these comments by that time frame.

Bruce mentioned the other meetings that we will have following tonight's public hearing.

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Although more to come on that, we will have a meeting at Los Alamos tomorrow evening at the Holiday Inn Express. As you're coming into town, you follow the drive right off the main hill road -- off the main hill road.

We will have a public hearing in Espanola on Wednesday the 25th at the Santa Claran Hotel in Espanola. And on Friday -- Thursday, I mean, we will have the public hearing in Santa Fe at the community college there south of town. And it will be the same format, and we will have the same time. We'll start at 4:45 with the doors open, poster session 5:00 to 5:30, and then we'll start comments at 5:35, and run through 9:00 p.m., at that time.

And as Bruce mentioned, also, we have various ways to present -- provide comments on the draft documents. So I encourage any number of those ways. Feel free to comment multiple times. We will be taking comments through June 28th.

So I appreciate you-all being here, and I'd like to get started with the main part of our process, and ask Bruce to get started, and we'll start taking your public comments.

Thank you very much.

MR. MacALLISTER: A couple of late-breaking

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announcements, folks. Based on the number of people that ultimately have signed up to make comments, we have -- we're required to reduce our initial round to comment, the time frame for that, to three minutes.

So, we will go through these as quickly as we can, and hopefully we'll have time for additional comments after that.

So, I'll try to be as efficient as I can with that.

Also, I've been asked to let people know that the video that's being made in the center of the room right now is not being done by the Department of Energy or the National Nuclear Safety Administration.

So, if anybody objects to having their image videoed while they're making their comment, kindly just bring that up with the videographer, and we will work that out.

Without further ado, I'm going to take the names in the order that I've been given them, based on your registration. And I'm going to call out two names; the first name will be our first speaker, the second name is the person to be ready to speak next.

First we have Ray M. Baca. And Scott Kovac will be in the chute to be speaking next.

And Mr. Baca, you can use this mike or that

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mike. You ready?

MR. RAY M. BACA: Good evening. My name is Ray Baca. I am the Executive Director for the New Mexico Building Trades Council.

In that capacity, I represent all of the construction labor unions here in the state of New Mexico. This includes approximately 800 construction and maintenance workers that are currently employed there at the Laboratory. These are family-sustaining well-paying jobs that unfortunately otherwise would not be available anywhere else in northern New Mexico. They are very few and far between.

For those of you who are not aware, the construction industry in New Mexico is in a very blighted state currently, as it is in most of the country. The unemployment rate for construction workers has fully doubled, and in many cases triple that of the average unemployed New Mexican.

It is not uncommon to see unemployment rates of 25 to 28 percent in many of the crafts that we represent.

Obviously, if this facility comes to be, if and when it comes to be, this should be a tremendous boost not only to the construction industry of

401-1

401-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

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New Mexico, but more importantly to the many construction families in New Mexico who are in dire straits.

We respectfully urge the Lab to begin this project sooner than later. Thank you.

MR. MacALLISTER: Mr. Kovac, followed by Robert Press.

MR. SCOTT KOVAC: Thank you. My name is Scott Kovac with Nuclear Watch of New Mexico in Santa Fe.

First off, I would -- I'm having a problem with this format tonight. I would prefer to see a presentation given along with your explanation. Very complicated issue. You have the posters. Those could be a PowerPoint presentation. Yes, the subject matter experts, it would be nice to get them on record.

Thank you. (Applause.)

Okay. On to my comments. I will -- first off, I request that this EIS -- this Supplemental EIS be withdrawn, and that true alternatives are analyzed.

The alternatives we're given, two out of the three are not really alternatives. To build the existing -- I mean, alternative number one, the

401-1 cont'd

402-1

402-2

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402-1 Comment noted.

402-2 Although many commentors expressed a preference for a No Action Alternative that would abandon the current CMR Building and not proceed with the CMRR-NF, such an alternative is not consistent with meeting NNSA's mission need nor does it reflect the status quo at LANL. The No Action Alternative in this *CMRR-NF SEIS* is based on the decision announced in the 2004 ROD for the original *CMRR EIS*. This is consistent with CEQ recommendations that, for proposed changes to an ongoing activity, "no action" can mean continuing with present plans (51 FR 15618). NNSA determined that a supplement to the *2003 CMRR EIS* is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in design and construction of the CMRR-NF and has addressed alternatives consistent with previous analyses and decisions. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision. NNSA estimates that the total project cost of CMRR Project construction activities would be between $3.7 billion and $5.9 billion (DOE 2011b).

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no-action alternative is to, you know, build the 2003-2004 version of the nuclear facility, which at this stage cannot be done, because of the seismic issues. So, that's not really an alternative.

The other alternative is to continue using the existing -- you know, the existing CMR facility without upgrading it. And that's not really an alternative, either.

So you've eliminated two alternatives, and you're down to one alternative and, you know, we're not here tonight to just decide if it's a deep facility or shallow facility.

I also think we should analyze the -- take a hard look at the costs of the facility. A lot of the issues -- a lot of the previous decisions were based on costs back in 2003-2004, before the seismic issues were known -- the increased seismic issues were known.

It was -- at that point it was decided that it would be cheaper to build a new building than to upgrade the existing old building, and I'm not sure that's true any more. Upgrading the existing CMR building was an option in the scoping comments, and for some reason it got removed, and we would like to see that back as an alternative.

402-2 cont'd

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Thank you. And I will submit formal comments also. Thank you. (Applause.)

MR. MacALLISTER: Thank you. Robert Press followed by Don Hancock.

MR. PRESS: I will be brief. Recently the United States and Russia agreed to reduce the number of nuclear warheads. And here we are with a proposal from the Department of Energy and LANL suggesting that we build a new building, build new pits for nuclear weapons. Does the word hypocrisy mean anything to you? It does to me.

What I thought about doing when I came here was to set up an employment agency outside, because it seems to me when we come to these hearings the question is about jobs. Never mind that the jobs are a threat to the citizens of the United States. Never mind that the Department of Energy is supposed to be a protective agency for the people of the United States. But when we want to build something new and create more jobs, as the gentleman earlier said, then we vote for building more bombs.

Japan just went through a serious problem. Three Mile Island was a serious problem. Russia had its own serious problem. But do we pay attention to any of those? No. We do not live in a democracy any

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403-1 NNSA notes the commentor's opposition to pit production and nuclear weapons. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

As stated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, the purpose of the proposed CMRR-NF is to provide analytical chemistry and materials characterization capabilities in support of NNSA and LANL missions. The *CMRR-NF SEIS* presents the environmental impacts of construction and operation of the facility; one area of environmental impacts is socioeconomics, including jobs.

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more. We are controlled by corporate America, and the people who work at these agencies are employed by corporate America. If they want other jobs, I would be happy to help them find jobs. We need other scientists to look for peaceful ways of bringing safety to the United States and the rest of the world. But we ignore that.

403-1 cont'd

I have been to many of these hearings. And at most hearings, the majority of the people who are giving evidence, are not listened to. And I am sure tonight that what I have said will not be listened to.

403-2

So, I am not going to waste my time. And I hope other people will join me as I walk out.

Thank you. (Applause.)

MR. MacALLISTER: Don Hancock, followed by Dave McCoy.

MR. DON HANCOCK: Good evening. I'm Don Hancock from Southwest Research and Information Center, a 40-year-old organization based in Albuquerque.

We've looked at dozens of Environmental Impact Statements over the last 40 years, and this one is one of the worst, most obviously illegal ones that we have ever looked at, and I've seen some

403-2 NNSA considers every comment received by U.S. mail, email, toll-free telephone or fax line, or at the public hearings. Consistent with the purpose and intent of NEPA and the implementing regulations, public comments assist NNSA in determining the scope of the analysis to be included in a NEPA document and in improving the analysis and range of alternatives evaluated. Refer to Section 2.2, NEPA Process, of this CRD for more information.

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pretty bad documents.

One of the things that's interesting, though, is that this document that was referred to, this is the 2003 Environmental Impact Statement on this project, the preferred alternative in this document and, in fact, the option that was chosen in the Department of Energy Record of Decision, is now rejected as being inadequate, inappropriate, because it doesn't meet the seismic hazard problems.

Well, that's pretty amazing, the Department of Energy itself has said, this Environmental Impact Statement that it did is legally inadequate.

When you have a legally inadequate document, what should you do? The Department of Energy has two reasonable choices.

One, the preferred one, would be to say, well, we guess we shouldn't build this nuclear facility at all. That would be what the preferred alternative would be.

The other alternative would be to go back and start over with a legally adequate Environmental Impact Statement. They've chosen not to do that, either, but to take an illegal, inadequate document, and say, we can supplement it. With what? With a one-alternative proposal. The one alternative is to

404-1

404-1 The *CMRR EIS* was not legally inadequate. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. The *CMRR-NF SEIS* is an SEIS to specifically address changes in the design of the CMRR-NF based on additional seismic information and safety requirements. Refer to Section 2.2, NEPA Process, of this CRD for more information.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building or distributing the functions assigned to the CMRR-NF among different LANL facilities. Regarding the former, NNSA has determined that extensive upgrades to the CMR Building would be only marginally effective in providing the operational risk reduction

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build a shiny, new nuclear bomb plant, and dig a 58-foot hole to put the shiny bomb plant on top.

Or the other alternative is to dig a 130-foot hole in the ground, fill half of it up with cement, and put the shiny bomb plant on top of it.

Those are not what are called all of the reasonable alternatives. The Council on Environmental Quality Regulations that govern these procedures say that the heart -- their word, the heart of an Environmental Impact Statement is discussion of all reasonable alternatives.

So this new document has no heart. It has no heart from a legal standpoint, and it has no heart from a lot of other standpoints.

What about the other reasonable alternatives? The alternative of not building it? No, that -- can't consider that, because that wouldn't fulfill our purpose and mission.

What about the alternative of using the existing plutonium facility? That's rejected in one sentence, quote, "It would interfere with performing work currently being conducted there, and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work."

That's not -- that one sentence is not what

404-1 cont'd

and program capabilities required to support NNSA mission assignments at LANL. Refer to Section 2.11, Alternatives Considered, of this CRD for additional information.

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you call a rigorous analysis of all of the alternatives. So they haven't done that.

There are other alternatives that I could go into, and actually Mr. Snyder encouraged me before the hearing started tonight, to go into detail about the other reasonable alternatives that should be included, but I've now been told that I only have three minutes, so that clearly, we are getting mixed messages here. On the one hand we want to hear what the analysis of the reasonable alternatives should be. And on the other hand we're told, oh, by the way, you really don't have time to do that.

404-1 cont'd

MR. MacALLISTER: Well, actually, your time is up.

MR. DON HANCOCK: Well, I understand, but there's another thing that needs to be said about how DOE can't be bothered with talking about the reasonable alternatives. DOE's own regulations say that they have to notice 15 days in advance.

MR. MacALLISTER: Sir, your time is up, I'm going to have to ask you to give up the mike.

SPEAKER FROM THE FLOOR: Let him speak, let him speak.

(Speakers from the Floor were talking at the same time, and could not be reported.)

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MR. DON HANCOCK: This is a good example -- this is a good example of the Department of Energy not wanting to hear people's comments.

MR. MacALLISTER: My apologies. We set out the ground rules. I've asked you to abide by the ground rules.

SPEAKER FROM THE FLOOR: You set them up. We didn't set them up.

(Speakers from the floor were talking at the same time, and could not be reported.)

MR. MacALLISTER: We have many other people waiting, and the intention is to let everybody speak.

SPEAKER FROM THE FLOOR: (Speaking at the same time as Mr. MacAllister.) (Inaudible.) Willing to give up for that?

OTHER SPEAKERS FROM THE FLOOR: I am.

I will give him my time.

MR. MacALLISTER: If somebody -- if the next person I call chooses to yield, that will be -- I will give him another three minutes, that's fine, but Dave McCoy is in the cue.

SPEAKER FROM THE FLOOR: No, everybody should take their own time.

MR. MacALLISTER: And Dennis Holloway is next.

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MR. DAVE McCOY: I agree with Mr. Hancock. My name is David McCoy. I am the Director for Citizen Action. I agree with Mr. Hancock about the phantom alternatives that are being presented here.

Additionally, the use of National Security protocol is being used to trump the NEPA. This is a very inadequate SEIS.

The only reason it was issued at the time it was issued is because there was a lawsuit against the lack of a new EIS being in effect.

The SEIS fails to examine reasonable alternatives to the proposed CMRR.

The preferred alternative of building is not technically or financially feasible through the completely unsafe geological location that's been chosen.

Moving or not constructing at all must be an alternative for consideration.

405-1

The uncertainties associated with building either the shallow or the deep excavations of the CMRR, as proposed in the SEIS, are insurmountable.

Let's take a look at some of the information that's missing about this site geologically.

There's no determination of a kappa from a

405-2

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405-1 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*). The No Action Alternative included in the *CMRR-NF SEIS* is based on the 2004 ROD for the *2003 CMRR EIS* (69 FR 6967). See Section 2.11, Alternatives Considered, of this CRD for more information.

405-2 NNSA notes the commentor's concerns and technical comments regarding seismic issues related to the Draft CMRR-NF SEIS. In addition to the following responses, refer to Section 2.2, NEPA Process, and Section 2.6, Seismic and Geologic Concerns, of this CRD for more information. Chapter 3, Section 3.5, Geology and Soils, of the CMRR-NF SEIS has been revised to improve the discussion of faulting and seismic hazards at LANL.

The comment indicates that site-specific seismic data are inadequate because studies have not been conducted. Dozens of mapping studies of the Pajarito fault system have been conducted (for example, Gardner and House 1987; Wong et al. 2005; Carter and Gardner 1995; McCalpin 1997; Lavine et al. 2003), including state-of-the-art, high-precision mapping in the vicinity of LANL. In addition, numerous paleoseismic trench investigations have been conducted at 17 sites over the past 20 years (for example, Gardner et al. 1990; Olig et al. 1996; Kelson et al. 1996; McCalpin 1998, 1999, 2007; LANL 2007). These studies clearly show that the Pajarito fault system is a series of normal slip faults that form the best studied fault system in the Rio Grande rift. Admittedly, some parts of the fault have not been as well studied as others; these tend to be those portions outside of LANL, especially where

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network of seismometers.

An analysis of high potential ground shaking due to amplification of seismic waves by the near surface soils or at the near surface soils, which is commonly referred to as site amplification, is completely missing. Mapping of faults beneath LANL, and the relationship to regional tectonics is missing.

Information that should warn against the use of this site is that the potential for compression of the weak, soft volcanic ash beneath the heavy CMRR, and the potential subsidence over the long-term, the so-called raft that is supposed to float, may sink.

The potential is there for hydro collapse due to wetting. The added weight to the CMRR from the use of water, supplying this water within the building for fire suppression, and for cooling plutonium, has not been presented.

The slope instability, which can cause excessive movement is not really being considered.

The increased seismic shaking due to the soft volcanic ash and building response is not really set forward.

We can't do an adequate risk analysis,

405-2 cont'd

405-3

access issues are a problem (for example, the Santa Clara Canyon segment). Additional study of these areas would likely improve our understanding of the fault and could help reduce uncertainties in the inputs, but these studies are not a prerequisite to conducting a PSHA or determining design ground motions at LANL. The uncertainties in regards to fault geometry, rupture behavior, and sense of slip on the Pajarito fault system were fully recognized and addressed in the range of inputs to the PSHA. A range of fault dips was used (±15°), a component of oblique slip was considered in calculating slip rates, and two rupture models and various rupture scenarios were included in the analysis to address remaining uncertainties in the geometry and sense of slip of the Pajarito fault system. All of the data and analyses for the Pajarito fault system published in the Lewis et al. (2009) study were included or considered in the PSHA update.

The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option. A draft slope stability analysis has been prepared and determined that indicated that global slope stability is not an issue for the Deep Excavation Option (LANL 2011a: LANL site, 028). If the Deep Excavation Option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed.

405-3 Chapter 4, Section 4.2.10.2, and 4.3.10.2, and Appendix C of the *CMRR-NF SEIS* present the accident analysis for the CMRR-NF. NNSA evaluates a range of potential accidents and their impacts. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

because they don't have the data in place to do a risk analysis, and yet they're trying to tell the public that this is safe. The accident that can happen there, is supposedly a spill of plutonium.

Listen, the accident that can happen is an explosion or a fire out there with plutonium, and the loss of Colorado and most of Santa Fe, and most of New Mexico. Let's quit kidding ourselves. This --

MR. MacALLISTER: Your time is up.

MR. McCOY: Yeah, I know.

This EIS talks about -- well, we are going to incorporate the lessons of Fukushima. The lesson of Fukushima is don't build nuclear reactors and nuclear facilities in unsafe geological locations.

405-3 cont'd

MR. MacALLISTER: Dennis Holloway, followed by Joan Brown.

MR. DENNIS HOLLOWAY: I'm an architect in the state of New Mexico. I was licensed as an architect in 1970, and this is ridiculous. What's going to happen to this state if this plant goes in? I can tell you that all architects have to take earthquake exams to be licensed in certain states like California. New Mexico doesn't require that, even though we have so many earthquakes.

But just to let you know, I have studied it

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carefully. It's part of my training. And I'm here to tell you that this EIS, all the statements about seismic issues -- baloney. And don't trust it. We need to get an expert analysis of that seismic site before any more nuclear facilities are built in that death factory. (Applause.)

MR. MacALLISTER: Joan Brown, followed by Marlene Perrotte.

SISTER JOAN BROWN: Good evening, my name is Joan Brown. I'm a Franciscan sister and I work in several different ecology and faith organizations throughout the state. I have been to numerous of these hearings. I keep coming, and nothing seems to change. There's no real alternative, and I second the voice that our voices are not heard. I'm not a technical expert, but I am a citizen, and I work in these issues all the time. I am appalled that we are continuing to go forth with this without a realistic EIS. I'm appalled that we are spending $4.5 million on such a facility when we have a $14 trillion debt in this nation, when we are cutting education funds, we are cutting health care funds, we don't have any money for true energy alternatives like solar, wind, and others that we haven't even thought of. I'm appalled we would even stand to continue to put up

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407-1

406-1 Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

407-1 NNSA notes the commentor's concerns. CEQ and DOE NEPA regulations and implementing procedures require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively), to address the changes in construction of the CMRR-NF based on additional seismic information.

Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.2, NEPA Process, and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

with this.

I think a better alternative for the investigation of this would be to call some of these very intelligent credible citizen experts and sit down and talk with them instead of whoever the, quote, experts are that have been being relied upon.

But ultimately, this is a deep moral and spiritual issue. And I believe that we have lost and are losing our soul in this nation bit by bit, more and more. That we would build such a facility on a vulnerable piece of land seismically that would threaten our water in the state, which we already are in a drought and we are in severe concerns about, shows that we have no care, concern, for the current populations, the people, or the future children and people of not only this nation, but of other countries, as well.

We are risking all of this and all of this money, and yet we fail to consider climate change, which is affecting millions, billions, of people on this planet. It's truly a waste of money.

I do, in closing, have an alternative that I would like to propose. And I propose this even though some of you might think it's very simplistic, and there's not enough time to explain it in great

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depth, but my alternative is on the other side of what really is propelling this particular project, and that's the $14.5 billion of these dollar bills, but on the other side it says, "In God we trust." I would propose that an alternative be not in a simplistic manner but in a truly deep, spiritual, moral and ethical way to look at what does it mean to really trust in God and our own creative possibilities, intelligence, as individuals and as collective people in this state, and propose other alternatives. In God we trust. And I'm giving this as my alternative for documentation.

MR. MacALLISTER: Thank you. Marlene, followed by Camy Condon.

MS. MARLENE PERROTTE: We have been asked to model civil dialogue, which means be submissive to the military, to the corporate/military/industrial complex. The greatest threat that we have, says the Pentagon, is climate change. Nuclear weapons are obsolete. How do we confront DOE and DOD with the mixture of the corporate/military money? What happened to governing power by the people, of the people, and for the people? It seems also that this process is obsolete.

We must understand that when we make

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decisions that are going to affect millions and the future of our planet, when we're talking about uncertainty and we have no data on the risk, we must understand we need to use the precautionary principle. We must find out and we must ask, "Prove to me that the Clean Water Act will not be violated. Prove to me that the Clean Air Act will not be violated. Prove to me that nuclear weapons should be on that seismic mountain. Prove to me all the things that you are saying, that this is not going to happen."

I think we must understand that we have been entrusted with the sovereign resources of this world. Are we going to put our trust in this bombplex when our budget is being balanced on the backs of teachers, Medicare and Medicaid people and people that are senior citizens in Social Security? Isn't that something, to come to a point when we prefer putting our trust in nuclear weapons rather than the humanity of this planet and the earth community. Thank you. (Applause.)

MR. MacALLISTER: Camy Condon, followed by Bastia Miller.

MS. CAMY CONDON: Good afternoon. My name is Camy Condon, a long-time resident of New Mexico,

408-1

408-2

408-1 As part of the NEPA Process, an EIS must consider whether actions described under its alternatives would threaten a violation of Federal, state, or local law or requirement imposed for the protection of the environment (40 CFR 1508.27) or require a permit, license, or other entitlement (40 CFR 1502.25). NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF and to conduct its operations in a manner that ensures the protection of public health, safety, and the environment through compliance with all applicable Federal and state laws, regulations, directives, and other requirements (including the Clean Water Act and Clean Air Act). Refer to Chapter 5 of the *CMRR-NF SEIS* for more information. Also, refer to Appendix C of the SEIS for risk analysis.

408-2 Funding decisions regarding major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.2, NEPA Process, and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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and a lover of every part of nature here. I also work a little bit in Japan, where I have published 15 books, was a journalist, and I'm doing volunteer work with micro credit banking in northeastern Brazil because I'm on Social Security and I can volunteer in another place.

409-1

But I'm right now here to be strongly against this project. I will only say one reason. I agree with many other points that have been made, but I want to say only one comment about the seismic hazards. Right now I have my son, Michael, and my granddaughter, and the mom of the family living in Tokyo. My son works there as a manager for a Japanese company, one of the largest, most profitable telephone companies in Tokyo, Japan, and my granddaughter, age 1, is now receiving low-level radiation from the Fukushima plant. I speak Japanese and ever since the tsunami, the earthquake, and the tsunami, I been watching online all of the daily reports from the NHK Broadcasting, Japanese corporation reports from the beginning until now.

409-1 cont'd

I am horrified to think that my granddaughter might come back to my house in New Mexico, escaping radiation in Japan, and find radiation hazards here in New Mexico, more of them, even more.

409-1 NNSA notes the commentor's objection to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF of this CRD for more information.

There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information. Chapter 4 of the *CMRR-NF SEIS* analyzes the radiological impacts associated with operations at the proposed CMRR-NF. The radiological hazards would be small. See Chapter 3, Section 3.4.3, regarding current radiological emissions at LANL.

I know very little about the geology of the Pajarito Plateau, except I do know that there are faults there and that the current building is above one of the faults, and that is a new building, according to the gentleman who informed me earlier, down the road, the plans for that down the road from this seismic fault. I don't think that's down the road far enough, and because of the unsafe location, the reality that we will hopefully not ever need any of these weapons, I don't want my own tax money used for this purpose. I strongly object to this project, and thank you for letting us testify.

409-1 cont'd

MR. MacALLISTER: Thank you. Bastia Miller, followed by Marcus Page.

MS. BASTIA MILLER: My name is Bastia Miller. I'm on the board of Concerned Citizens for Nuclear Safety in Santa Fe. I want to start by saying how disconcerting it is to have our time for speaking abruptly changed from five minutes to three minutes. Some speakers are excellent extemporaneous speakers, and I have my things written down, and so it has really inhibited my ability to present in a reasonable way, to go back through and figure out how to make three minutes out of my five minutes, and I think that that kind of abrupt shift in the ground

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410-1 NNSA notes the commentor's concern with the format of the Albuquerque public hearing. Public hearings were formatted to allow enough time for all commentors to be heard. Refer to Section 2.2, NEPA Process, of this CRD for more information.

Regarding the commentor's statements about climate change and earthquakes, the *CMRR-NF SEIS* has been revised to address seismic risks and the effects of climate change in the American Southwest. Seismic risks were addressed in the *Draft CMRR-NF SEIS*. However, Chapter 3, Sections 3.5 of the *CMRR-NF SEIS* has been revised to more fully describe the faulting and seismic hazards at LANL. Chapter 3, Section 3.4.4 of the SEIS has been revised to include a description of the types of environmental changes that could occur in the southwestern United States due to climate change. A discussion of potential impacts that could result at LANL from climate change, has been added to Chapter 4, Section 4.1.

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rules discourages the public from coming forward.

I want to register my observation that the proposed CMRR building has a limited rationale in the sense that it does not seem to have been adapted to the changing circumstances of our world. First I'm thinking of climate change, which means we can no longer trust our risk measurements. The land is responding with earthquakes. The water is responding with tsunamis. The weather is going to extremes of hot and cold, and tornadoes bring destruction. It's hard to gain a footing under those circumstances.

410-1 cont'd

There are other critical reasons for taking a true look at possible alternatives to the proposed CMRR, but the nuclear industry seems to be intent on building itself up without reviewing the big picture. One way is that our human institutions are flawed. The profit motive has come to play a bigger and bigger role in determining our goals. We move away from science at its best when government institutions are privatized.

Another flaw is that regulators are unable consistently to hold themselves to the standards that are separate, in terms of public interest, from the people who are being regulated.

I have to move along, because I have this

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sense of impending abrupt termination.

The next point concerns nuclear waste. Los Alamos has a long history of carelessness in handling nuclear waste, promises for cleanup that are not carried out, and of priorities that put cleanup in the last place. With the recent settlement under the Clean Water Act, they have another opportunity to show good faith, and for that I would like to be grateful, but rationally, I still hold a wait-and-see attitude. I grew up in Missouri, the "Show Me" state.

410-2

My last point has to do with the economy of the surrounding communities. These communities have borne heavy consequences --

MR. MacALLISTER: Thirty seconds. You're fine.

MS. BASTIA MILLER: -- for being in the neighborhood of Los Alamos. The health effects for people who have worked at the lab are severe. People have suffered the consequences of contamination because of Cerro Grande fire. The traditional ways of life are being curtailed and eliminated.

410-3

I want to conclude with this quotation from Octavio Paz. He says, "The idea of a single civilization for everyone implicit in the cult of

410-2 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Chapter 2, Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

410-3 Chapter 3, Section 3.11.4, Health Effects Studies, of the *CMRR-NF SEIS* provides a summary of a number of epidemiological studies that have been conducted in the LANL area, as well as a summary of cancer incidence and mortality figures for the Los Alamos Region as derived from data from the National Cancer Institute. During the period 2003 through 2007, the annual cancer death rate for Los Alamos County was smaller than that for the state of New Mexico as a whole, and for the entire United States. The cancer incidence rates, however, of melanoma of the skin, prostate cancer, thyroid cancer, and female breast cancer were elevated in Los Alamos County with respect to state averages, while cancers of the lung, colon, and rectum occurred at rates below the state averages. Refer also to Chapter 3, Section 3.11.3, Industrial Safety, of the *CMRR-NF SEIS*.

A summary of possible public health impacts resulting from the May 2000 Cerro Grande fire is included in Chapter 4, Section 4.6.1.3, Radionuclides and Chemicals in the Environment Around Los Alamos National Laboratory, of the 2008 *LANL SWEIS* (DOE 2008a). In summary, it was concluded that no harmful exposures due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future as a result of the fire (ATSDR 2006).

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progress and technique impoverishes and mutilates us. Every view of the world that becomes extinct, every culture that disappears diminishes a possibility of life."

These are just some of the concerns I have. I'd like to encourage the Department of Energy to take a deeper look, a step back from simply continuing to do more of the same. Thank you very much.

MR. MacALLISTER: Thank you. Marcus Page, followed by Benjamin Abbott.

MR. MARCUS PAGE: Moo. I am the cash cow. I am so happy to receive all this money in foolishness. But I'm not the cash cow, I was just dressed as the cash cow. My name is Marcus, with Trinity Nuclear Abolitionists, and I'm opposed to the system of feeding the cash cow because the nuclear complex was not meant to be a jobs program for scientists and for the working class folks that build the factories. And that's what it has become, and I'm sorry about that, because I do agree with all the antinuclear and nuclear abolitionist statements that have been made before me tonight, so I don't want to repeat it. I just want to echo it. I wish you could play it back on a tape so you could hear it.

411-1

411-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Thank you all for what you have said tonight, especially Sister Joan Brown on the spiritual level. So I'm inviting all of you to come pray with Trinity Nuclear Abolitionists on Father's Day, which is also Holy Trinity Sunday. It's June 19th, and then Monday morning, June 20th. Thanks again for all the antinuclear and nuclear abolition statements. They are true. And thanks for the technical statements from our watchdog groups.

Back to cash cow mode. Feed me more money to destroy the planet. Moo. I am a fool. I am Los Alamos. I am the Department of Energy.

(Applause.)

MR. MacALLISTER: Benjamin Abbott, followed by Janet Greenwald.

MR. BENJAMIN ABBOTT: I have a process question. Why is it necessary for you to stand next to the speakers?

SPEAKER FROM THE FLOOR: It's kind of threatening, intimidating.

MR. MacALLISTER: It's for the speakers. There is a yellow card that is a 30-second warning, and there's a red card, so I don't have to stand here unless people don't respect the process.

MR. BENJAMIN ABBOTT: I'm going to be

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pretty brief. My name is Benjamin Abbott. I'm a grad student at UNM. Like Marcus, I want to thank everyone else who has spoken and echo a lot of their concerns. But what I want to emphasize is the fact that the project is not going to build anything useful. I mean, it's absolutely important to have jobs and money in northern New Mexico, in this state. I think we should just take the money and do something useful with it, because currently, plutonium pits are not going to help anyone. It would be much better for the entire species if you just paid the people to do absolutely nothing. That would be vastly superior. You pay them to party, basically. But as dangerous as a wild party is, it's not as dangerous as this facility, according to all the testimony we've had today. *412-1*

So that's what I want to emphasize, that there's no reason for any of this. We should take the money and do something useful with it. There are so many things that need to be done, there are so many people suffering, people not having a good standard of living, there's education systems going downhill, the energy system in this country needs to be complete, and transportation needs to be completely revamped. The money can be spent on so

412-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

many good things, so this project should be opposed for whatever reasoning, anything you can do to stop it and put the money into somewhere good should be done. Thank you. (Applause.)

MR. MacALLISTER: Janet Greenwald, followed by John Lockridge.

MS. JANET GREENWALD: Well, I think what I have to say probably relates mostly to risk. I moved to New Mexico when I was in my early 20s, and bought a farm downwind from Los Alamos. If I had known that Los Alamos was there, I might not have done that. My family lives there still. So once I found out Los Alamos was there, and started to begin to understand nukes and what they were all about and what Los Alamos was about, I joined CARD and came down to Albuquerque and worked in the office a day a week. CARD paid my bus fair, I think, for a number of years. And I became known as an antinuclear activist in the north and around Albuquerque, and for some reason people at Los Alamos, because I never passed on what they said, would sometimes call me and talk to me about what they were experiencing up there. I would work at the office late at night, so these calls would always happen late at night.

The first one was from a woman who had just

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lost her husband at Los Alamos. She said he was a high administrator. She said that he had died from cancer. She said a lot of people she knew were dying of cancer. She told me that the little stream that ran through her backyard, her beautiful backyard, was contaminated. I asked her if she would come forward and talk about these things, and she said if she came forward, that her family at Los Alamos would be ostracized. And so no, she was not going to come forward.

Then some years later, I received a call from a friend of mine about our friend Tyler, who lived at Los Alamos. Tyler had discovered a brain cancer cluster up at Los Alamos, and my friend called me to tell me that his house had been burned down, and that he and his family would be moving out of New Mexico.

So then years later, I'm working late in my office again, and I get a call from a nuclear scientist. Well, he wasn't -- let's see how to state. His training was -- it was not a physicist. I don't want to go into it any more, but it was the night of the Cerro Grande fire, and he called me up because he said there was a bunker at Los Alamos and that there were prototypes of nuclear bombs in that

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bunker, and he was terrified that the fire was going to reach the bunker, and he said if it did, we would all be gone. So he started out very upset, and then I talked to him for about an hour, and he gradually got less upset, and then he began to back pedal and say, "No, it will be fine, it will be all right."

So now I no longer work late in my office. I'm in my mid-60s, and if there are calls coming in from people at Los Alamos who are upset by one thing or another, they just get an answering machine. So for me, building another bomb building at Los Alamos -- it just seems like insanity, just insanity. And who is the enemy? Who is the enemy? Maybe it's like the poet said. Maybe we found out that it was ourselves. Thank you.

413-1

MR. MacALLISTER: John Lockridge followed by Flora Barrett.

MR. JOHN LOCKRIDGE: My name is John Lockridge. Thank you for the opportunity to speak here. I wish we would get 100 percent of our time instead of 60 percent or 40 percent reduction. It seems fairly extreme.

Anyway, to get on with it, since we don't have much time, there has been a lot said about the EIS itself. I think the EIS is really almost

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413-1 NNSA notes the commentor's opposition to this project. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

414-1 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

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secondary to the real problem of violation of a nuclear treaty that we have. We have this nuclear nonproliferation treaty that we are signatory to here in the United States, and we are supposed to honor what we sign, I believe. I don't believe that's being done in this case. A lot of people -- some of the DOE people may say -- and some others, too -- that this is really just replacement of existing pits. But I don't know, and I don't know that as a citizen of New Mexico I'll ever find out unless we work for DOE. The truth of the matter, I believe there are probably going to be some enhancements to the pits, probably in the name of safety or something like that. But they won't be the same pits. They won't be just replacement pits for the ones that are already in existence. We already have thousands of bombs that are lying around the country, about 2000 or more here, I believe, at Kirtland.

Another thing that has been mentioned before, but I think is important to restate, is that the environmental threat is extreme. At least a couple of people, I believe, have mentioned the seismic problems. But not only that, there is already contamination up at Los Alamos from poorly maintained pits. They don't have accurate records.

414-1 cont'd

414-2

414-2 A key purpose of the continued operation of LANL is to support NNSA's core missions as directed by Congress and the President, which includes ensuring a safe and reliable nuclear weapons stockpile. Work performed in the CMR Building and the proposed CMRR-NF supports this effort. This entails maintaining the existing stockpile, not adding more nuclear weapons.

The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Please refer to Section 2.4, CMR Mission, of this CRD for more information.

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There's pits down here at Kirtland Air Force Base, Los Alamos, I guess, actually -- or not Los Alamos. But Sandia Labs. Not really the Air Force base, I guess. But we've already seen how our government does not maintain safety issues for us that should be maintained. We are supposed to be protecting the people of the country, not destroying the people of the country, and I think we're just introducing more and more threats to our population by allowing this to happen. So I think just on the basis of the treaty that it seems to me that we're violating, we should not even consider having an EIS. We should consider ending the project.

414-1 cont'd

And at that, since I don't know how much time more I may have, I'm just going to end it there. Thank you for the time. (Applause.)

MR. MacALLISTER: Flora Barrett, followed by number 16. I don't have a name.

MS. FLORA BARRETT: Yes, my name is Flora Barrett, and I am speaking for myself. I heard earlier a mention that nuclear weapons are obsolete. That is my message. And so I'm going to say it again, because I have had planned all along to say nuclear weapons are obsolete. Why would we build more nuclear weapons when we can't use them? Why are

415-1

415-1 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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we going to put money into something that can never be used? We have said all along that we can't use these weapons. So why would we build more of them?

So shut down that plant. Don't put any money in it. Close it completely, and let's talk about how we can build sustainable nuclear and -- sustainable energy, solar, wind, and bio uses of energy. To me, it doesn't make any sense to build something you're never going to use. We can't use it. There's no way we can put nuclear weapons out there in the world. So close down whatever is there of the CMRR and do not ever open it again.

415-1 cont'd

(Applause.)

MR. MacALLISTER: Thank you, ma'am. The person who signed in as number 16. I don't have a name. Thank you, followed by Lilly Rendt.

NUMBER 16: Also no pictures, and I don't want the film on, so you don't have my release of confidentiality and my release of information to do that.

I'm just going to give the basics of what came up for me. I was born in Los Alamos, and I know the big difference between Bechtel. Bechtel's a corporation. It is not the old days of University of California and the quaintness of University of

416-1

416-1 DOE and NNSA continue to provide oversight of LANL as in the past. The managing and operating contract for LANL was openly competed in 2005 for the first time in the 63-year history of the LANL site. Through 2005, the University of California had been the sole managing and operation contractor for the LANL site since its creation in 1943. The new managing and operating contractor, Los Alamos National Security, LLC, began managing LANL in June 2006. The selection of a new managing and operating contractor did not change the DOE and NNSA work performed at LANL.

Chicago where the scientists were coming in and they made $45,000 for the year. These Bechtel guys are coming in with gigantic salaries of $100,000 and above. They're not living in the little government houses that are falling apart that were built in the 1950s. They're in the great big houses near the golf course.

416-1 cont'd

I think that because of this, we've lost our ethics, we've lost our morality, and we're not thinking of legacy and future generations.

The other thought I have, that I had, was: Why risk it? Why risk it? And what I have seen in the transition of how quaint Los Alamos used to be, it's easy for Bechtel to come in, make big money off of this and then split.

And then the other thing I was thinking of, the downwinders were never paid off for the cancers that they're still dealing with. The government made promises to the downwinders, and those monies never occurred for those people with thyroid and brain and lung, et cetera, cancers.

This idea that we've got to make jobs, build jobs off of nuclear, those construction companies and those unions can make money off of peace. They don't need a nuclear plant to have a job

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from it.

And then the other thought I had was, I thought I'd take it from a psychosocial point of view. Why should we trust these people? I would like alcohol and substance abuse testing and psychological testing done of these new age scientists that have come in. I want them tested. (Applause.) Yeah, and when I look at the neighbors that I have had in Los Alamos, I definitely want them alcohol and substance abuse tested. Okay, just a thought.

But the bottom line is: Why risk it? Why risk it? (Applause.)

MR. MacALLISTER: Lilly Rendt, followed by Susan Rodriguez.

MS. LILLY RENDT: I'm always amused at these meetings because I go a long way back. I go back to the '50s, when they were putting the Cullen Foundation under New York City and underneath Columbia University, and everybody was so afraid that Columbia University would blow up, and they did have a few accidents there. They were just starting.

But I was going to this gal who said we ought to give them an education. Yes, here's a book called "Complexity." And it talks about putting all

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your facts into the computer before you make a decision. And frankly, I think things that were put into computer to decide upon in New Mexico had to be very, very scarce. In other words, there weren't very many factors that were considered, and when the people here talk about some of the things that have happened and some of the ways of our state, I don't think you people know what you're doing, because this is a very special state.

I just read a book about Alaska, about the gates of Alaska, and I think that might be a good place to put it. Let's make an effort to have them change the whole venue up to Alaska and then the Alaskans who are shooting wolves anyway might have some interest in it. They want all the money, so if money is the big issue, let's give it to them. I mean, we've been a poor state for many, many years, and I really don't mind.

But some people want to build things and then not use them. And what would be the use of nuclear energy at this point? We're trying to work for world peace, not world war. And if we are, then we ought to think carefully that we don't want to be the center and, you know -- we don't want to be the ones that are bombed.

417-1

417-1 NNSA notes the commentor's opposition to nuclear facilities. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons and Nuclear Technology, of this CRD for more information.

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Let's build these things somewhere on the Nordic Sea where it can't do any harm to anyone. There's no one up there. This man walked for miles and miles with his two dogs and he didn't meet any people, and his food drop didn't come down, and he met some grizzly bears. He looked so pathetic, the grizzly bears left him alone.

So let's see if we can somehow, somehow -- I don't know how exactly -- maybe through complexity theory, where we really put all the factors into play, or maybe -- well, all I know is, Japan made a big mistake. They built on a small island and they were hurt. And we are not a large state. Even though we do have some mountains, for heaven's sake, let's keep those nuclear facilities out of our state. (Applause.)

MR. MacALLISTER: Susan Rodriguez followed by Sarah Rodriguez.

MS. SUSAN RODRIGUEZ: I'm going to go over some of these points, because I agree with all of them, and to start with the first one I think that's important, a new nuclear facility will detract from the cleanup of the existing mess. So DOE made a commitment to clean up the legacy waste at LANL when it signed the consent order with the New Mexico

418-1

418-1 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF.

Funding decisions regarding major Federal programs (for example, education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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Environment Department on March 1, 2005. The order requires cleanup of certain sites by December 31, 2015, including the area G dump site at Technical Area 54. Construction activities for a new nuclear facility will interfere with these cleanup activities. DOE must devote taxpayer funds for cleanup, not a new NF, which will only add to the pollution.

Then I'll skip to another point about these pits, 80 pits. DOE must conduct a capacity study to determine whether the existing facilities can be used instead of building the proposed NF, which would increase pit manufacturing to at least 80 pits a year. Now, I have the number 20 and it says here existing facilities have sufficed since 1999, when DOE limited plutonium pit manufacturing to 20, and I thought that was a lot, but to go up to 80 is absolutely crazy. Since the US treaty obligations forbid both new nuclear designs and increased numbers of nuclear weapons in the US arsenal, pits to be manufactured are touted as stockpiled stewardship, which I have heard for the past 20 years here, for maintaining existing nuclear weapons through replacement of old pits. There's something called the Jason study, however, of aging plutonium that

418-1 cont'd

418-2

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418-2 A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Regarding the commentor's request for a capacity study, the proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years.

NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a). It should be noted that plutonium aging is only one of the variables affecting nuclear weapon system reliability; other variables can control overall life expectancy of nuclear weapon systems.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

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argues against the need for pit replacement within the next 100 years.

The manufacturing of these pits is dangerous and the pollution is a threat to the health and safety of those living downwind and downstream, so that's us here in Albuquerque.

418-2 cont'd

Los Alamos National Laboratories inherited the US pit manufacturing from Rocky Flats, which was one of my points. Rocky Flats -- you should Google that one. We inherited that one, Rocky Flats, in Colorado, just north of Denver, was a place where they produced these pits and they made such a mess of it that the FBI had to come down and close them down because they were about to poison the drinking water of Denver.

Now, that is just news, guys. You know, this is just -- and so now we have CCNS that has looked into the Buckman well and they have found plutonium and all the other stuff that -- I'm not a nuclear person -- so it's all this stuff that you don't want in your drinking water, and here in Albuquerque we have not yet had -- the Albuquerque Water Utility Authority has not seen fit to even try to test that. You can't test for this enough because it will go through. It's so small, you have to test

418-3

418-3 There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if he decision is made to construct the CMRR-NF. A monitoring program is conducted at LANL (described in the *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, for more information on cleanup of past contamination.

In 2006, LANL collected a groundwater sample from Buckman Well #1 as part of routine quarterly sampling that is conducted by NNSA at three water-supply wells in the Buckman Well Field. This sampling is performed pursuant to a cooperative agreement with the City of Santa Fe. The samples were sent to an independent laboratory for radiochemistry analysis where it was reported that they detected plutonium-238 at a level about 3 percent of the DOE concentration guide for water ingestion. However, after recent reviews of legacy data by NNSA and further discussions with the analytical laboratory, the laboratory has confirmed that computer analyses of the results were incorrect. The laboratory concluded that plutonium-238 was *not present* in the sample from Buckman Well #1. No further detections of plutonium have occurred since 2006 (LANL 2011e).

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for this much, and you don't even want to breathe in any of that plutonium. It's deadly. The money spent on unusable nuclear weapons is nuts for economic growth.

418-3 cont'd

This is the last point, but I think the Republicans ought to pay attention to this. It goes down the black hole of corporate pockets. Los Alamos, the richest county per capita in the United States, does not need US budgetary charity, but it consumes the lion's share of federal funds coming to New Mexico. The rest of New Mexico, one of the nation's poorest states, cries out for the fulfillment of real human needs. Money for education, health care, green jobs, renewable energy, public transportation, would all keep circulating and get our money growing again -- get our economy growing again. Thank you. Let's put some sanity into this. (Applause.)

418-4

MR. MacALLISTER: Sarah Rodriguez, followed by Manuel Pino.

MS. SARAH RODRIGUEZ: My name is Sarah. I am currently a chemistry major and a dual Spanish major at the University of New Mexico. I'm only 22. Be these plutonium pits will hurt my generation and the one after that. I have known my friends -- I

419-1

418-4 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

419-1 NNSA notes the commentor's opposition to plutonium pits. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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have had some friends who have died of cancer who are my age. I do not want anybody to have that feeling of loss. Thank you. (Applause.)

MR. MacALLISTER: Manuel Pino, followed by Joni Arends.

MR. MANUEL PINO: (In Navajo.) My name is Manuel Pino, from Acoma Pueblo. My entire life I grew up in what is known as the Grants mineral belt. The Grants mineral belt is one of the largest ore-producing areas in the world. This 50-year legacy of the nuclear industry in our backyard has caused nothing but pain and suffering for Laguna, Acoma, and Navajo people in Cibola and McKinley Counties, extending into the Navajo Nation in Arizona.

It does not surprise me, standing here as an indigenous man, that the United States Government is again breaking another treaty, the nuclear proliferation treaty. The United States Government has broken over 500 to this day. In this 50-year legacy, we have experienced the Jackpile Mine, the largest open pit uranium mine in the world. The Homestake Mill, consistently from the mid-1950s through the 1980s, one of the largest mill producers in the world. We have experienced the Church Rock

420-1

420-1 Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

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spill, 15 miles east of Gallup, considered along with Three Mile Island as the worst nuclear accident in the United States. Japan and Canada are currently proposing a mine and mill north of our sacred mountain, Mt. Taylor, which recently received a traditional cultural property designation by the State Historic Preservation Office of New Mexico that was challenged by the mining industry and pro-nuclear populations in Cibola County, and the TCP designation was reversed.

I know that in close proximity to Los Alamos we have numerous sacred sites that are sacred to San Ildefonso, Santa Clara, Ohkay Owingeh, Tesuque, and numerous others of our sister pueblos in the north. And you know, I have learned historically that many of these impacts to the pueblos were after-the-fact realization. And again, I want to make sure that there is full consultation of pueblo people in those northern pueblos, that they have free prior and informed consent in this decision-making process, as we were denied that in the Grants mineral belt in many of these historical contamination legacies. We have cancer clusters in our community, both of working and nonworking populations today. You go to my people and ask them if they want any

420-2

420-2 DOE and NNSA are aware of and comply with Presidential Executive Order 13175, which requires all Federal agencies to engage in consultation and coordination with Native American tribal governments on matters of mutual concern. Chapter 5, Section 5.7.1.3, of the *CMRR-NF SEIS* has been revised to describe the specific interactions with the tribal governments in New Mexico's seven northern counties concerning the CMRR Project and the SEIS.

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form of nuclear energy.

You know, it's hard for us to conceive as indigenous peoples, when we were studying the Jackpile Mine, that of the 24 million tons of ore, over 90 percent of that went to one source, the Department of Defense, to make weapons of mass destruction. When we tell our elders that this big hole in their front yard was going for that purpose, they were appalled. They were blown away.

We have lived with the contamination of the nuclear industry not only in the Grants mineral belt, but if you go to western Shoshoni land in Nevada, they were the most bombed nation in the world before the aboveground testing was banned. If you go to northern Saskatchewan today, where Dineh and Cree people live, you'll find the most intense mined and milled area of North America. We are sick and tired of disproportionately providing unsafe energy to this country, and we want it to stop. (Applause.)

MR. MacALLISTER: Joan Arends, followed by M. J. Mahan.

MS. JONI ARENDS: Good evening. My name is Joni Arends. I'm with Concerned Citizens for Nuclear Safety. I would like to talk about the need for a public hearing exactly the same as this in the Taos

421-1

421-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

community. Mayor Darren Cordova asked for a hearing. He was denied, but offered a briefing. Sixty people in the Taos region signed a petition in support of the mayor's request. Thirty nongovernmental organizations and four individuals signed a separate letter asking for hearing in Taos. And one of the justifications for the request was because that community was in the plume of the Cerro Grande fire for weeks and the plume was orange.

So I would like to renew that request for a hearing just like this, where people could make public comments, where they can hear one another, the same type of hearing as here in Albuquerque, as will be held in Los Alamos tomorrow night, in Espanola on Wednesday night, and in Santa Fe on Thursday night. There's plenty of time between now and the end of the comment period on June 28th for a public hearing in the Taos community. Thank you. (Applause.)

421-1 cont'd

MR. MacALLISTER: M. J. Mahan, followed by David Bacon.

MS. M.J. MAHAN: I'd like to yield to Mr. Hancock, if he's still here.

MR. MacALLISTER: Thank you, ma'am. Is Mr. Hancock?

MR. HANCOCK: I'm glad to speak. I'd like

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to let the other people go ahead, and I'll speak at the end, if necessary. If you have something to say, feel free to say it.

MS. M.J. MAHAN: Okay. Well, I was very anxious to hear some positive suggestions. I'm very much against building more bombs. I have been way up in the Arctic Circle, where you could look over and see where the Russians were doing their atomic work and their pollution, and it frightens the life out of me. I went up in the Gutenhurten (phonetic) in Norway. There's plenty up there.

More and more, it becomes obvious that we are one world, and what we do in one place affects everything else. I was here in New Mexico as a child, long before the '50s. We moved out, got transferred. My dad got transferred out in 1942. My great grandmother was here. She was principal of First Ward School.

I came back here from New Orleans. I don't have much. I had a wonderful life as a teacher, and I loved it in Catholic schools. But I didn't get much money, and all I had was my little home in New Orleans, my home for 25 years, and I thought with the hurricanes coming, with the threat to one of the largest ports in the United States, I thought, well,

422-1

422-1 NNSA notes the commentor's opposition to nuclear weapons production. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology for more information.

I'm going to go back home to my querencia, the land where my family came from seven generations ago.

So I came back. Little did I know that I was sitting right on top of Sandia Labs. And we know that because people finally wouldn't be quiet, they have finally listened to us, and they're drilling more wells, and we know that the pollution is spreading, spreading, spreading.

So it's a very sad thing. New Mexico's a wonderful place. I grew up here. My mom and dad would sing the song, "Oh, fair New Mexico, we love, we love you so." They met at UNM in the 1920s, late '20s.

So anyway, I do hope that a solution can be found. I'm glad that people are at least letting us speak. I wish they would listen. That's my hope, that they will listen, and that we will get our land back, our beautiful New Mexico. Thank you.

422-1

(Applause.)

MR. MacALLISTER: David Bacon.

MR. DAVID BACON: I come to these events to talk to, you know, my fellow human beings. I was at a committee that Senator Bingaman chaired three weeks ago in Santa Fe. He's the head of Energy and Natural Resources, and he was presented with the data on

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what's going to happen to the Colorado and Rio Grande river basins due to climate change. And it was serious data that he had received, you know. We're just starting to crash and burn when it comes to our own river basins. River flows will diminish, snow pack will diminish, storms will get heavier but less frequent. He came out of that meeting shaken, and Paula Garcia, the head of the acequia association, said in the paper the next day she was shocked at what she heard.

Now, that $6 billion that we're going to throw away or the DOE is going to throw away -- well, $6 billion and counting that they're going to throw away -- would translate into 10,000 jobs at $30 an hour over ten years. We know what we need to do. DOE doesn't know anything. TEPCO didn't know anything. BP didn't know anything. The Army Corps of Engineers didn't know anything. Nature always wins. It always wins. We might as well get used to that and start planning for the future that we know is coming, rather than pretending that we can build these things and that we know what will happen.

Fukushima. The damage occurred during the earthquake, not the tsunami. They know that now. And they know that the level of the meltdown

423-1

423-1 NNSA notes the commentor's concern about climate change and the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, environmental restoration and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Please refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Regarding the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

astonished those so-called experts in Fukushima. What we have to do -- and it was clear in the testimony to Senator Bingaman -- we have to begin restoration of our watersheds. We have to begin restoration of our grasslands. We have to begin the massive deployment of nonwater-consumptive clean energy that doesn't create any waste. We have to put people to work. To do this, we have to create healthy soils, we have to create healthy river systems, we have to create health in our own natural resources again.

This isn't rocket science, fortunately. With just this money, we could begin a serious endeavor to at least stave off what we know is going to be happening to our river basins. I would hope that we can begin now to focus on this, and to completely pull money out of DOE and Los Alamos. We should not spend another dime up there.

We now know how to restore -- a lot of people who are outside the sort of traditional scientific community know how to restore grasslands, river sheds, and so forth, watersheds. We know how to do it. We should be putting all our money into these people, into the small communities in the rural areas, into the damaged forests and the damaged

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watersheds that have been damaged because we've pushed our energy to the limit. We push everything to the limit. We have to back off. We have to start working with nature. We know that, and we ought to get on with it, and I don't think we can change the focus of DOE, but we can create an entirely new restorative scientific and civil community and begin to save the planet. Thank you. (Applause.)

423-1 cont'd

MR. MacALLISTER: Has everybody who completed a registration form had a chance to speak? Has anybody not had a chance to speak who completed one?

Okay. How many people who are still present are interested in making another comment? Three? Okay. We have time. And I'd also like to remind you again that you have unlimited time and unlimited numbers of opportunities to submit comments through the other venues in the back corner, and venues like the mail, phone, and fax. So tonight is not by any means your only opportunity. In addition, we have the other three meetings.

Sir, is there a question?

SPEAKER FROM THE FLOOR: Yes. How can your calculations for the facility site be correct when you can't even calculate that there was plenty of

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time for five-minute presentations rather than three-minute presentations? It's now 7:00, and this is supposed to run until 9:00. That's two more hours. You know? That's a pretty poor calculation on your part, and a lot of interruption of a lot of people that wanted to say something in a cohesive, coherent manner. So you have insulted this audience by your ineffectual and improper rule-making.

MR. MacALLISTER: Thank you, sir, for the comment. And just for the record, two points. I apologize if anybody did feel intimidated by my standing here. The intention was to facilitate everybody being able to turn through -- it wasn't available to me at the outset how many people may still be registering and coming through, so I was intent on making sure that everybody had a chance to at least make their comment.

Secondly, I can't speak to the calculation. I take the number that I'm told as the facilitator. So at this point, I would like to start the second round, and invite people in the order that they raised their hand to come and speak. Ma'am?

NUMBER 16: The other thing that DOE doesn't get is that people don't trust you. There's no trust built, and trust is earned, so that when

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you're speaking, you know, Bechtel babble, people don't trust you. You broke trust. There's no reason for anybody to trust any of you.

MR. MacALLISTER: Okay. The comment -- since it wasn't on the mic, I'm not sure it was picked up. But the comment was that there is no reason to trust us, that the calculations broke trust; is that it?

NUMBER 16: No, just in general. People have no reason to trust you.

MR. MacALLISTER: Understood. Okay. So other people who would like to approach the mic and make a comment, please raise your hand, and I'll call you in the order of your hand raised.

Sir, in the yellow shirt.

MR. DENNIS HOLLOWAY: Just one more comment from an architect. You know, Fukushima is on all of our minds right now. If it isn't, it should be. And you should be reading online what actually is going on, because there's a news blackout. Tokyo people are being very, very highly radiated right now, and we're not hearing it on our news. I want to say that, you know, when Fukushima was built, I'm sure that jobs were the big issue in those counties, weren't they? They convinced the counties that

406-2

406-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF* they're going to get lots of work. But you know, the difference between that and what we're talking about here, which is potential job creation, is that people know what a nuclear reactor is and how it works. We don't know what's going to be done inside that building, because it's a security problem, and we're not going to be told. So why should we do carte blanche and say on an earthquake fault and volcanic area that this kind of a very sensitive processing facility should be built on a 50-foot hole with concrete it in, or a 100-foot hole with concrete in it?

I don't care. As an architect, this is total psycho babble. There's no sense to it structurally, and everybody in this room who I don't see again -- we should talk and we should try to find a way to get an analysis of that whole idea because that's the weak point here. There is no structural rational basis for implementing this kind of sensitive process.

MR. MacALLISTER: Thank you, sir. Who would like to speak next? Ma'am.

MS. M.J. MAHAN: Thank you. One of the big issues I feel is the job issue. And there are so many different ways to create jobs that are positive,

406-2 cont'd

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SEIS was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geological Concerns, of this CRD for more information.

422-2 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, agriculture and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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instead of putting all our money into something that is going to -- I mean, it's a war issue. I mean, why do we want to put all of our funds into something that is only a war implement? I just can't see it. I feel like if we were to put that money, like these people said, into agriculture -- although agriculture, I think we put so much housing into New Mexico now, I don't know if we can ever have agriculture again, the way we had it.

422-2 cont'd

And this is one of the things I felt was a device. Years ago, there was so much empty land, and you could look for miles. And now when you go from here to Santa Fe, you see nothing but buildings and, you know, different structures, casinos, mister from Acoma there. You know, it has changed. And I always said we were not the largest state. I grew up in Minnesota. And there are 10,000 lakes in Minnesota. The water will never deplete there.

But I had a vision one time of how about transporting water to places where it's needed? California did it. And they brought plenty of water from up north down into southern California. And they have beautiful aquifers there. And this is one thing we could do. And there are all sorts of dreams that I have. But one of them is not blowing up

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things.

Somehow something has happened to New Mexico. We never thought that way years ago. I came here in 1966. My husband died in Vietnam, and I had to be the full support of my three children and myself. New Mexico gave me a house to live in, gave me a good job, I was a teacher for 30 years here, 53 altogether. And you know, I count my blessings. But I don't want them ruined. I do not want New Mexico ruined by a nuclear explosion or anything to do with it.

You know, frankly, I don't think you people know what you're doing. I have heard not one word from you people about -- or haven't seen any charts like I see over at the Cesar Chavez place when Kirtland gives a demonstration. You haven't given one iota of information of what you really want to do. You only give it in the papers and the journalists mess it up anyway. They don't know what they're saying. I'm sorry, but that is the truth. Sometimes I look at them and, you know, I really feel sorry for the mentality of the news reports on this. And you know, if we had some booklets or something -- but you brought nothing, and yet you expect us to welcome you with open arms, and I'm not sure I want

422-3

422-3 NNSA notes the comment about information on the *CMRR-NF SEIS.* In addition to the *Draft CMRR-NF SEIS*, NNSA distributed a Summary document that presents an overview of the alternatives and the impacts of each alternative. At the hearings, participants could review posters on the NEPA process and the alternatives and speak to NNSA staff and technical experts who were available to answer questions. Refer to Section 2.2, NEPA Process, of this CRD for more information.

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that kind of bienvenidos aqui.

MR. MacALLISTER: Sir, you had your hand up. Is there somebody else who would like to -- you will be next, sir.

MR. CARRILLO RODRIGUEZ BEJERANO: One of the points of -- my name is Carrillo Rodriguez Bejerano, and I'm a 22-year resident of the state of New Mexico, if that helps you. One of the points that this particular society such as ours that we are told -- developed society -- is the fact that we think that we are rational in several of the things that we do. Just tonight, just a simple point, we were not even able to calculate how much time we actually had available for comments. This is just a very simple proof of -- how shall I put it -- how ignorant we are of everything that we are trying to do.

Now, to me, the question of this nuclear weapons is a total -- it just has no logic whatsoever. It has no logic for one particular point to begin with. If we were ever going to go into a war with another nation that also had nuclear weapons, we would all be in real serious trouble. It would be not a question of, "Oh, we're just going to wait another 50 years and all this Agent Orange will

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dissipate into the vegetation or whatever we bombed over there in Vietnam," or, "Well, you know, we didn't find weapons of mass destruction there in Iraq, but they were there indeed. That's why we thought they would be there," and so on and so forth.

But in the case of a nuclear war, we don't get it. We would all reap that particular good thing of having these devices that are capable of destroying humanity many times over. So to me, that is not logical.

Secondly, it is not logical either that we expect all this money, billions and billions, as the gentleman just said, counting on something that we could not possibly use, while at the same time we are arguing that senior citizens should give up some of their particular hard-earned rights to having Medicare and also Medicaid, although not necessarily for seniors, but the Medicare and the Social Security that was fought by those who came behind us, simply because we don't have enough money, but we do have enough money, we think we have enough money, to spend billions of dollars on that particular foolish enterprise in Los Alamos. Build more nuclear weapons. What for? Whom are we going to attack with these things? Are we going to be able to defend

424-1

424-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, medicare and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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ourselves if someone throws a nuclear weapon at us? Of course we will. And we will throw a nuclear weapon at them. To what effect? We would all perish. So we could then say, "Oh, well, that place was after all safe. That particular fault, well, what does it matter anymore?"

No, it's not just putting it in somewhere else. It's not just saying, "Oh, well, I don't want it here in the state of New Mexico." I don't want it anywhere in the world. The world is a beautiful place. There's not just our state. It's the entire planet, which is a beautiful place. We should simply not have it. Yes, there's no foundation for this thing. Structurally speaking, this is stupidity at the highest degree, and it's very costly. Thank you. (Applause.)

424-2

BOB: My name is Bob and I have been coming to these hearings for about 30 years. What's that definition of insanity? If you keep doing the same thing over and over again and you expect different results? It's not happening, you know? And I have been sitting back there listening to people talk and trying to figure out, what is it going to take to really stop these people? And the only thing that I can see that's going to stop them is the same thing

425-1

424-2 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

425-1 NNSA acknowledges that there is substantial opposition to the CMRR-NF project. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

that happened in Tunisia and the same thing that happened in Egypt. People are going to have to stand up to the powers that be in this country and say, "We're not going to take it anymore. We're not going to do it anymore. We're mad as hell, that you're spending the money that we give you to kill us. We're tired of it."

And I don't understand where all the young people are, you know. All the people -- I mean, I just don't understand. Do they not care? Is our educational system so screwed up that they can't even see what's in their own self's best interest? You know? I don't understand. Are we so propagandized by the TV and the media that people don't understand what's at stake? I guess people aren't going to be in the street until we can't drink the water anymore and we can't breathe the air, but it will be too late then, you know. It will be too late. (Applause.)

MR. MacALLISTER: Mr. Hancock, and is there somebody else who wants to speak after Mr. Hancock? Pam and Sarah.

MR. DON HANCOCK: So let's get some numbers out so that we, the guinea pigs in Albuquerque, can help John and Roger and the rest of the folks at the forthcoming hearings.

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These hearings were noticed for public comment between 5:45 and 9:00. At five minutes apiece, that means 39 people can speak. Nobody needs to be cut off. So tonight, the first round, there were 23 people who spoke. So there was no reason at all to cut off the comments.

Those of us who have been at many hearings had said to Roger and other people in advance. "Give people five minutes. Some people will take them. A lot of people will not take all of the five minutes."

So the rule of thumb that I would argue you should use for the forthcoming hearings, unless you have 45 people or more signed up, give them five minutes. You'll still be through on time. So that's one number that you need to think about.

Another number that you need to think about are your own regulations. The Department of Energy's own regulations say that notice for any public hearing has to be provided 15 days in advance. Unfortunately, the Department of Energy can't count to 15 in this case, because this Albuquerque hearing was not noticed 15 days in advance. The card that I received in the mail from John arrived to me on May 19th. Four days. Not 15 days. Four days before the hearing. The legal Federal Register notice for this

404-2

404-2 The length of time given to commentors to speak at public hearings was estimated based on the anticipated number of commentors. At the Albuquerque meeting, in the end, less people spoke than were anticipated. Refer to Section 2.2, NEPA Process, of this CRD for more information.

DOE regulations state that "DOE shall hold at least one public hearing on DOE draft EISs. Such public hearings shall be announced at least 15 days in advance. The announcement shall identify the subject of the draft EIS and include the location, date, and time of the public hearings" (10 CFR 1021.313(b)). NNSA published a Notice of Availability for the *Draft CMRR-NF SEIS* in the *Federal Register* on April 29, 2011 (76 FR 24018). That notice stated that the public review and comment period would continue until June 13, 2011, and announced public hearings to be held in Los Alamos, Espanola, and Santa Fe on May 24, 25, and 26, respectively. On May 16, 2011, NNSA published a *Federal Register* notice (78 FR 28222) to extend the comment period 15 days and to add a hearing in Albuquerque. While the *Federal Register* notice appeared a week before the Albuquerque public hearing, a notice of the Albuquerque public hearing was published in the *Albuquerque Journal* on May 8 and 19, 2011, meeting the requirement for a 15-day advance notice.

All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

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hearing was May 16th, last Monday. That's seven days, not 15 days before the event.

So once again, this is another example, and I'm going to go into a couple of more. I have already mentioned the fact of how illegal the document is. This particular hearing was not properly noticed. That's a big problem. The Department of Energy can't count, can't follow its own regulations in terms of the minimal things about the law.

Let me give another number from their own document. The document says that the preferred alternative building, the shiny new bomb plant at Los Alamos, that's the only alternative they're considering -- that plant is supposed to operate for 50 years. Five-zero. During that time, if it were to operate, every year it creates waste, nuclear waste. And so the alternative that has to be considered is where is the disposal site in conjunction with this facility for the low-level waste and the transuranic waste that this facility is going to create through the year 2070, using their numbers that it starts operating about 2020, 2022, and operates for 50 years? So where is the waste site?

404-2 cont'd

404-3

404-3 Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12, of the *CMRR-NF* SEIS describe waste management impacts of all of the alternatives. As addressed further in Section 2.5, Cleanup and Waste Management, of this CRD, it is expected that sufficient disposal capacity will exist for all radioactive waste projected from any of the alternatives addressed in the *CMRR-NF SEIS*. Low-level radioactive waste disposal capacity currently exists at LANL at Area G within TA-54. When the disposal units at the existing Area G location are closed, plans are to transfer low-level radioactive waste disposal operations to the adjacent Zone 4 within Area G. Offsite disposal capacity also exists at both commercial and DOE locations.

Transuranic waste disposal capacity currently exists at WIPP. If waste disposal capacity at WIPP is no longer available over the operating life of CMRR-NF, then any transuranic waste generated at CMRR-NF or elsewhere at LANL would be safely stored until additional disposal capacity becomes available. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

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So the alternative -- this document also has to look at the alternative of a permanent waste site at Los Alamos for all the waste that this facility is going to create. In looking at that, it needs to consider a couple of things. It needs to consider the testimony you heard from Manny Pino, and that other Department of Energy people have heard over the years from folks at San Ildefonso and Santa Clara and other pueblos about how this would be degradation of their sacred sites.

That is not in this document. That's why you need to do a new document, start over, and get this kind of information in. And you need to understand that the Department of Energy has no disposal site that's even on its planning going out to 2070 for these kinds of wastes. So this document needs to discuss the alternatives to do that.

The other thing that needs to be said is that when you can't calculate numbers like 39 times five minutes is three hours and 15 minutes, you can't count to 15, in terms of adequate notice, you can't comply with your own regulations, that does not inspire public confidence that you can operate the existing facilities at Los Alamos or any new facility like you're talking about doing in this document.

404-3 cont'd

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You need to go back and start over and come back to us when you have real reasonable alternatives and real rigorous analysis that the law requires you to do. (Applause.)

MR. MacALLISTER: Ma'am.

NUMBER 16: I also want to make one more comment. People think that there's security in Los Alamos and that people are watching. A couple weekends ago, I was driving down from the Jemez and there were a couple of kids with paint ball things that had gotten under the fence into the lab proper. There was no security there.

The other thing that I'm thinking of is when the Cerro Grande fire happened, that was one match essentially lit on a windy day, and when you see the response in Los Alamos of what happened on that day, nobody knew what they were doing. I mean, Bandelier said that it was Santa Fe. Santa Fe said Los Alamos should come in. The labs waited a long time, you know, until it was right at the fence. So if you can't get the Cerro Grande fire right, how are they going to get something bigger correct? Right?

And so people have a very naive idea that there's security in Los Alamos. They're asleep at the wheel. If somebody wanted to go in and really

416-2

416-2 Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Access to nuclear facilities at LANL is strictly limited. Access control stations (called vehicle access portals) on Pajarito Road restrict access to DOE badge holders only; at least one occupant of a motor vehicle must present a valid DOE badge. Bicyclists without a valid DOE security badge are not allowed to use Pajarito Road. Walkers, joggers, work crews, and others on foot on Pajarito Road must display a valid security badge. Buildings such as the TA-55 Plutonium Facility and the CMR Building have even stricter access restrictions. (Relocation of the CMR capabilities at TA-55 in the Pajarito Corridor would reduce security costs.)

Airspace over LANL is also restricted.

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hurt Los Alamos and the world, it would only take -- they're not paying attention in the air waves up there that, you know, there's a little small airport. I mean, a little Cessna coming through Los Alamos -- I mean, think on it. They haven't second-guessed what other people already know, that there's no security in Los Alamos. People aren't paying attention. It's a false sense of security up there. Again, why risk it? You know? (Applause.)

416-2 cont'd

MR. MacALLISTER: Ma'am, I believe you were next?

SPEAKER FROM THE FLOOR: Thank you. Whether we are employed with the federal government or not, we know that these public hearings are mere rituals and that what we say here has little significance in what will be done because we're on a coast-to-coast federal reservation, and if we studied the dynamics of control of the individual tribal reservations at the beginning of the 1800s, we will see the same dynamics being played out coast to coast. The solution and how it should be performed remains the question, and is to remove who's at the helm, because those people at the helm have nothing to do with the people, we the people. We need to quit talking about "we" when we describe what they

426-1

426-1 NNSA notes the commentor's concern regarding how seriously NNSA considers public comments. NNSA considers every comment received by U.S. mail, email, toll-free telephone or fax line, or at the public hearings. Refer to Section 2.2, NEPA Process, of this CRD for more information.

are doing. We need to make a distinction between the people's will and the will of the master, and unless we do that clearly and in public forums, we will not be able to gain the attention of those who are totally uninformed.

Such hearings as these, with all the electronic mediums we have, should be televised and broadcast in their entirety. Announcements should have been made about these meetings on the electronic waves, as well as in the newspapers. The fact remains that there are people in control who really do not want public comment. It's merely a ritual to be endured. I'm reminded of a saying of Patrick Henry, one of the early revolutionaries of this country, after the British Empire was dethroned here, and for a short time, Patrick Henry and his compatriots had an idea of self-government. Well, that got waylaid with the passage of the federal constitution, a mere 11 years after the conclusion of the Revolutionary War. This history is not really highlighted in the mainstream curricula of the public schools or the universities, so we don't know the history. But Patrick Henry understated the case when he stated, "To erect and concentrate and perpetuate a large money interest must, in the course of human

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events, create one of two evils." We have both. "The prostration of agriculture at the feet of commerce and the change in the federal government fatal to American liberty."

Under this private commercial jurisdiction that we now live or reside under, owned by the owners of the World Bank, the IMF, and the Federal Reserve Bank, the cartel in this country, you know, everything is prostrated to the feet of commerce.

But there's also a larger plan of world domination. This nation is considered a potential threat to the new world order, because we have that history of the era of such people as Patrick Henry. If we can revive that history and remember what it was about and reinitiate the revival of the spirit of the American Revolution, the new world order's plans will be waylaid for another couple hundred years. So to subdue awareness, we are piddling around with the peripheral issues and not getting to the core issues: Who's in control of our lives? It's not us. Does talking to these people and petitioning them change their course of action? I don't think so. In fact, if you read the Declaration of Independence, one very prominent phrase that sticks out in my mind is, "our repeated petitions have been answered only by

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repeated injury," and as Bob Hagee said when he was up there, we've been doing this for 30 years, and is repeating the same methods and expecting a different result insanity, or are we fooling ourselves?

There has to be a different course of action. Out here talking to each other, and mocking the establishment doesn't work. We need to consider how do we remove malevolent criminal syndicates from the control of this country? How are we going to do that? And if we don't ask ourselves that question, we'll never get on the road to usurp the authority of people who have no allegiance to this country. Their allegiance is to a new world order. They want to subdue this nation, and they're working on it with many different projects, and they're doing a bad job of it, and all of us will be victims of that if we let them continue and institute a tyrannical totalitarian regime.

MR. MacALLISTER: Who would like to speak next?

MS. SUSAN RODRIGUEZ: And as some speakers were talking about the danger of an accident up in Los Alamos, I'm sure those of us know about 2,500. Does that number ring a bell? Aren't there missiles down there at Kirtland -- and they don't say whether

418-5

418-5 Activities at Kirtland AFB are beyond the scope of the CMRR-NF SEIS. NNSA notes commentor's concerns regarding accidents. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

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it's there or not, but there were missiles in that carved-out mountain, and they pulled it out and now it's down at Kirtland. And the question that we asked the city council is, "Well, you have these missiles. What is your plan for the City of Albuquerque, for us to get out of here or do something?" Like, "Oh, great, I-40."

I remember I had to go up to Santa Fe and the president came into town, and Paseo -- I live on that side -- I was stuck there in traffic for half an hour. I was late to that meeting, which turned out to be awful. Maybe Joni remembers that. It was a company that was going to say they didn't find anything in the Buckman well. They were so disrespectful. Here the company is getting money to look at a project and had the poster right up here and us sitting back there. It was the most disrespectful presentation I have ever seen. And it was infuriating. And when they would talk to you, they were using pieces of paper on a board and markers. It was really kindergarten stuff.

I'm not as well-educated in the sciences as my daughter and my husband, who has a Ph.D. from Michigan, but I do have an education, and I have some self-respect. These people didn't have any

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self-respect and didn't have any courtesy to us. And a lot are that way, but for us at least to remember that we still have to deal with those missiles right down there at Kirtland, and we have to get answers from our delegates, because I don't know what Mr. Fleck knows about it, but probably he knows something. I don't know whether he's gotten any answers, but if that's true, that's really scary. Okay, thank you.

MR. MacALLISTER: Joni, I believe you were next. Is there somebody who would like to speak after Joni?

MS. JONI ARENDS: My name is Joni Arends. I'm with Concerned Citizens for Nuclear Safety. So my comments are addressed to Steve Fong, to Roger Snyder, to John Tegtmeier, to Bruce MacAllister. How many groups got a little letter asking to make sure that these public hearings included provisions for people to be feeling comfortable? We asked that we be able to, I believe, speak from the podium. I guess we were supposed to speak there. That's not going to work for the three other hearings.

I kind of feel like we're playing the same game that we played with the White Rock scoping meetings, that it was necessary to go in the other

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room in order to make public comments.

When we went down to Pojoaque, there was some accommodation made. I want to contrast again the difference between when DOE headquarters does a public meeting, like the recent Greater than Class C Draft Environmental Impact Statement where we were able to hear one another. There was a facilitator, there was a court reporter. It's a very different situation when either the Albuquerque Site Office or Los Alamos National Laboratories is in charge of holding these meetings.

Now, we spent time putting together an e-mail to you all about what we needed for these meetings, and what we found tonight is, we found the facilitator standing behind the speakers in a very intimidating way. That's not going to work in the other three meetings, hopefully four. Hopefully Roger is going to consent to a hearing in Taos tonight.

I don't know why I need to spend my time reprimanding the Department of Energy when we thought that we had an agreement about the structure of these hearings. I'm also very concerned about how we were told originally that we would have five minutes each. I felt a sigh of relief through the room, where

421-2

421-2 NNSA notes comments on the structure of the public hearings. The length of time given to commentors to speak at public hearings was predicated on the number of commentors that were anticipated to request to speak, given the total amount of time available for all speakers. Time was available after all requested commentors spoke to open the floor. In addition to other methods offered at each public hearing to comment, the floor was open to the public until the allotted time. Please refer to Section 2.2, NEPA Process, of this CRD for more information.

people thought, oh, I'm going to be able to say everything that I wanted to say. And then we're cut down to three minutes.

So either you have to decide that we're having three minutes, or we're having five minutes. I mean, Don already eloquently described all of this. I didn't bring the memo with me or the request, because I thought that this was all resolved. After 30 years, like Bob has said, there comes a point where there's a level of respect, and I don't feel that tonight. I don't feel it in this process where, number one, our comments are being heard. We wrote the e-mail in good faith in order to facilitate public comment on this very serious matter. So we can try it again tomorrow night. We'd like a podium, we'd like the opportunity for everybody to hear one another speak. We'd like a presentation by the Department of Energy to explain this very complicated material. Any other suggestions, Scott, Janet? Don?

421-2 cont'd

You know, I don't want to get emotional, but it makes me really, really sad, because I don't understand if we have an agreement with John, who's the document manager, or we have an agreement with Elizabeth, or with Steve or with Roger, why, when we travel 60 miles to be at this meeting, there isn't

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that understanding that we're going to get what we asked for when it was agreed upon.

So I probably said too much, but Mr. MacAllister, it's really important that tomorrow night you don't stand behind speakers. It's very important that you calculate the amount of time. As Don said, 39 speakers. You know, it's the same kind of disrespect as was shown in the White Rock hearing, or scoping meeting. And then the adjustments that were made at the Pojoaque scoping meeting, and I hope we don't have to fight about it tomorrow night. Thank you. (Applause.)

MR. MacALLISTER: Ma'am, you were next, and there is there somebody else who would like to speak? Sir? You'll be next.

SPEAKER FROM THE FLOOR: I have a question to ask. I really support what Joni's been saying. I have been part of these agreements, broken agreements, I guess we could call them, and I'm wondering, are you planning to stay until 9:00, since it was announced that these hearings would go until 9:00? I mean, you know, because the people that are here are done speaking does not necessarily mean that someone might not come in later. So you'll be here until 9:00? Okay.

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And I want to reiterate what Bob has said about the 30 years of hearings, and to say that, you know, one more nuclear project for New Mexico. One more. And then one more. And then one more. And then uranium mining. Does that have to do with the fact that we're one of the poorest states? Does it have to do with the fact that we are a minority majority state? Does it have to do with the fact that we've had corrupt leaders that don't represent us? Does it have to do with the passing of money and making deals in back rooms? Why are all these nuclear projects coming here? Most of the people in New Mexico don't want them. Money and jobs. Money and jobs. We're poor. We're up against the wall. We have to have the money and jobs. You know? The Department of Energy, Department of Energy, dear Department of Energy, we need new ideas. We need the rivers taken care of. We need alternative energy. We don't need more nuclear projects. For us, you know, it's a matter of environmental racism, among other things, that these projects keep coming here. That's all.

427-1

ERIC: Hi. My name is Eric. In defense of Bruce getting behind people, I'm a master's in geology, and I've been to many conferences, and it's

427-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, alternative energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the construction and operation of the CMRR-NF.

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common for a moderator to get up when someone's time is getting close. You shouldn't feel threatened by it. It's happened to my advisors. Also my friends have given talks. The person stands up to let them know their time is up, and this happens at scientific conferences. This is not the man trying to threaten you. Even though you may feel that, I mean, in his defense, it does happen and it's not personal.

SPEAKER FROM THE FLOOR: Says you.

ERIC: Yeah, says me, right. I have a right to say it. Sorry. I'm probably the only one that -- I agree with many of your --

SPEAKER FROM THE FLOOR: This is not a geological conference we're talking about.

ERIC: It's a common moderation technique to let someone --

MR. MacALLISTER: The ground rules state that the speaker has the floor and there's not argument from the --

ERIC: I'm sorry, but it even happens in calm, fun environments.

MS. SUSAN RODRIGUEZ: We're saying we don't like it.

ERIC: Well, that's just the way moderation is done.

428-1

428-1 NNSA notes the commentor's support for how the public hearing was conducted.

MS. SUSAN RODRIGUEZ: We don't like it.

MR. MacALLISTER: Excuse me, ma'am. Again I'm going by the ground rules. Let the speaker speak. You'll have a chance to speak if you need.

ERIC: In terms of the timing, it's probably pretty easy to gauge how much time someone should have, but I think it's important, sir, you brought this issue up, and everyone understands that after everyone's done talking, people that might not have had something to say might be encouraged to say something based on what they have heard. So I think it is important to have some time after the allotted time has been taken for people to come up and perhaps say something that they were inspired to say while hearing others. And so I think there should be some time afterwards. Maybe, you know, they left too much time tonight, but I do think there should be some time for people that are inspired to say something. (Applause.)

MR. MacALLISTER: Is there another person who would like to speak?

SPEAKER FROM THE FLOOR: I just had this piece that I was interested in saying before, and when we were instructed about making our comments at the beginning of the evening, we were told we were

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supposed to engage in civil comments and behaviors, civil manner, and represent high level of discourse. Even that kind of -- that's a reprimand, as if we didn't know how to speak our sentences and abide by the general social rules. It sounds as if we were some kind of rabble, "You just never know what they're going to do."

Further, the moderator was not simply signaling times up. He was standing behind you and hovering in a way that, for people like me who don't do much public speaking, is nerve-racking. I think there are many ways to do moderation that are congenial. I have spoken before, I have not fallen apart. I find this setting, just my own personal self, I find it -- not right now, but before -- very difficult.

429-1

Anyway, this was the thing that I wanted to add to the conversation, and that is sometimes we're misled by phrases. There was an article on the nuclear industry in The Reporter this last week, nuclear industry in New Mexico, and a technician was quoted as saying, quote, "The state's nuclear future is bright."

I think the language is very misleading, because we have not seen much benefit to the

429-1 NNSA notes the comment on the conduct of the public hearing. The format of the public hearings was based on previous NNSA NEPA document hearings. Please refer to Section 2.2, NEPA Process, of this CRD for more information.

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communities of New Mexico from the federal funds that have poured into the laboratory. It's not the state's future that's bright. It's the nuclear industry's future that is bright, and it's simply a different kettle of fish from the state. The state ought to be here for the benefit of the population, and still we are suffering in our schools and our social systems. I won't go into the list; everybody else has done it. But I'm sure the man who was quoted in this article saying the state's nuclear future is bright -- I'm sure he was thinking that it goes to everyone. But, in fact, it's a very, very restricted benefit. That's all I have to say. Thank you.

MR. MacALLISTER: Is there anybody else who would like to speak? Sir.

SPEAKER FROM THE FLOOR: In law, it's called violation of due process. That's what Don Hancock was talking about. It's also the arrogance of power. You know, I went to the court hearings on the lack of an environmental impact statement. The environmental impact statement from 2003 and the record of decision are dead and gone. That facility cannot be built because of the seismic problems. Okay? And you know, when it got right down to the

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bottom line, Roger Snyder and his attorneys are crying national security.

Now, I actually read some of these documents that you people write and your justification for not considering alternatives, and when you dealt with the justification for not building this facility at all, the justification was, well, President Obama and Vice President Joe Biden have said we got to have this.

Now, it's one thing to say that, and I can see Roger smiling back there. But you know, it's another thing when you have got Mr. Don Stosfield (phonetic) pimping, pimping the federal government for funds. You know? He goes to these conferences and these budget hearings, and everything. He says, you know, jeez, you know -- he combines with the other lab directors, and they get together and they say, you know, we've got to have this stuff for national security to protect ourselves, you know.

It reminds me of a book I read years ago in anthropology, and I'm not sure who wrote it, you know, but it's about cannibals. And they would go and grab one guy and take him back and cook him and eat him, and then they'd get all paranoid, you know, they'd be on the defensive, because they knew that

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there was going to be some kind of revenge coming down the road.

And that's where this country is with national defense, you know. We're so paranoid about the rest of the world. But more than that, it's a monster money-maker for your people, isn't it? That's what it's about, is the money. You have got this project.

We've got -- this project's gone from $350 million and then when you discovered seismic problems, it went to $6 million. Now you're talking about 12 years out into the future, to even finish this thing assuming, assuming you can overcome the seismic problems, and the engineering and design problems that you are faced with, but that's another 12 years. So, let's figure, what was the percentage rate of cost escalation from 350 million to $6 billion over -- let's see, from the time period of 2003 to 2011, that's eight years. I don't know, I don't have a calculator in my head.

But if you are going to continue that kind of escalation of costs, what are we looking at, $20 billion, you know, and then you make these silly remarks in your Supplemental EIS about, well, gee, the old CMR, won't work, but we're going to hold it

430-1

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430-1 Continued use of the CMR Building is one of the alternatives considered in the *CMRR-NF SEIS*; however, this alternative would not meet NNSA's purpose and need for action as stated in the SEIS. As described in Chapter 1, Section 1.3, the CMR Building's nuclear operations and capabilities are currently restricted to maintain compliance with safety requirements. Due to facility limitations, the CMR Building is not being operated to the full extent needed to meet DOE and NNSA operational requirements for the foreseeable future. These limitations do not currently support the missions that NNSA has assigned to LANL. See Section 2.11, Alternatives Considered, of this CRD for more information.

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in reserve just in case that we run into financial problems,

Well, which is it? You going to shut down the CMR or not, you know.

430-1 cont'd

Now, let's talk a little about the arrogance of power, again, when it comes to scientific investigation. You were supposed to discover what the deep seismic status beneath TA55 was. You were supposed to build at least three deep boreholes. You built one to 741 feet. I read the Klinefelter (phonetics) report, and I read another report that that was based on. And, frankly, your supplemental EIS is an advertisement for such gross deficiencies in your understanding of the seismic situation up there, that this EIS ought to be a red light to you, that we can't build this. This isn't even worth considering this site as a location for storing 13,200 pounds of plutonium, which is one of the most explosive and dangerous substances on the face of the planet.

430-2

You know, what are you thinking? You know, is your mortgage so important to you that you are willing to risk everything in the state on your ignorance, your arrogance, your obstinacy?

You know, there were people in Fukushima,

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430-2 There has been extensive seismic characterization of TA-55 and the CMRR Project site. Chapter 3, Section 3.5.2.4 of the *Final CMRR-NF SEIS* has been revised to address the deep seismic characteristic borings referred to by the commentor. Deep geotechnical borings were drilled at TA-55 to characterize the complete geologic column down to the basement bedrock level. These borings were completed for geotechnical characterization of the subsurface and not for the purpose of identifying the presence or absence of deep faults. Three boring locations were initially identified; however, only two borings were deemed necessary to provide corroborative characterization of the deeper portions of the geologic column. The third boring was identified as an alternative and would have been drilled only if the currently planned site at TA-55 were deemed not viable. Borehole DSC-1B was drilled to a depth of 741 feet (226 meters) below ground surface, while borehole DSC-2A reached a total depth of 550 feet (168 meters) below ground surface. The geologic formations that are most relevant to TA-55 are those that would influence seismic ground response and foundation performance. Seismic ground response, as determined by these two deep seismic characterization borings, is affected by the relatively high seismic wave velocity of the basement rocks, consisting of the Cerros del Rio basalt and Tschicoma Formation dacite (both of which are relatively hard volcanic rocks), and the much lower seismic wave velocities of the overlying, softer Bandelier Tuff. From data provided by Kleinfelder (2007a), DSC-1B was the only deep borehole to penetrate into the Tschicoma Formation dacite.

they're elderly now. They're in their 80s, and they said don't build, don't build this nuclear reactor here. This is a dangerous site. We can have tsunamis here, you know.

Now, you've got the public here, and they're saying, don't build this thing here. This is a dangerous site, you know. But you're not going to listen to them. It's because of the arrogance of power. Once you start making that kind of money you feel like you can do anything. And you've got your Joe Biden and the president on your side. So you've got unlimited resources.

You know, that courtroom hearing that you were out there, Roger, doesn't it -- there's a big seal behind the judge, and it says, United States District Court. It doesn't say, people's court of the United States. And that's what the public is up against. You know, the courts assume and give great deference to the so-called experts of the government. They're supposed to know.

So if the public walks in with an expert and says, you know, that's wrong, the judge just waves them aside.

Now you guys know in the federal government that you've got that going for you. You know, you've

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got money, you've got power, you've got the court system on your side. So you can go ahead with the most insane, stupid, idiotic location for building a factory. You ought to be ashamed of yourselves, you ought to be ashamed of yourselves. (Applause.)

But more than that, you ought to reconsider, you should just reconsider.

What Anastasio needs to do, and Mr. Snyder, and the rest of you guys, that have all the power, is you need to go back and tell the president, Mr. President, you know what? It's too dangerous to build this stuff here. You need to have a moment of honesty. When you really state the truth, and you start thinking about something, other than your mortgage, you start thinking about the safety of the public, the safety of the American public, and you start giving the President and Mr. Biden some real information, this site is too dangerous, folks, you know. Stop pimping the President, stop pimping the vice president for funds. (Applause.)

SPEAKER FROM THE FLOOR: I just have something very brief to say.

MR. MacALLISTER: Ma'am, in the blue, come forward.

UNIDENTIFIED SPEAKER: And that is at the

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last hearing that we had, we had -- there was a professional facilitator, and he had a podium about right there. And so the speaker -- though he was far away from the speaker, the speaker could see him, and he could say, well, you know, two minutes, three minutes, one minute, and, you know, and the speaker and the facilitator could speak to each other at distance so that the speaker wasn't intimidated. I just wanted to suggest that.

MR. MacALLISTER: Ma'am?

UNIDENTIFIED SPEAKER: I just have a question to ask. I understood Don Hancock to say that because the agreement, according to the rules for holding this meeting, had not been met properly, that 15 days has to be -- it has to be announced 15 days ahead of the meeting. And he said, if I'm remembering correctly, that because of this, that you need to go back and start from scratch, on this whole issue, and go back to the regulations, follow the regulations, and erase everything that went on that was not according to those regulations, and start from scratch with a whole new EIS, that you can't start with what -- you can't carry on this continuing process when what you have to do is start from scratch.

431-1

431-1 DOE regulations state that "DOE shall hold at least one public hearing on DOE draft EISs. Such public hearings shall be announced at least 15 days in advance. The announcement shall identify the subject of the draft EIS and include the location, date, and time of the public hearings" (10 CFR 1021.313(b)). NNSA published a Notice of Availability for the *Draft CMRR-NF SEIS* in the *Federal Register* on April 29, 2011 (76 FR 24018). That notice stated that the public review and comment period would continue until June 13, 2011, and announced public hearings to be held in Los Alamos, Espanola, and Santa Fe on May 24, 25, and 26, respectively. On May 16, 2011, NNSA published a *Federal Register* notice (78 FR 28222) to extend the comment period 15 days and to add a hearing in Albuquerque. While the *Federal Register* notice appeared a week before the Albuquerque public hearing, a notice of the Albuquerque public hearing was published in the *Albuquerque Journal* on May 8 and 19, 2011, meeting the requirement for a 15-day advance notice.

All comments submitted to NNSA were considered in preparing the *Final CMRR-NF SEIS*.

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So, are you going to go back and do a different -- start with a new EIS and look at the rules and abide by them, give 15 days' announcement for the meeting, that's a public meeting, that will be held, and start again with the beginning with the EIS?

If Don is still around, if I left something out or if I misunderstood what he said, I would like to have that corrected, and get an answer from you.

MR. MacALLISTER: From me?

UNIDENTIFIED SPEAKER: Yeah, yeah.

MR. MacALLISTER: I'm sorry, ma'am, but my role is simply as a facilitator to see that everybody makes -- has a chance to make comments.

UNIDENTIFIED SPEAKER: Oh, well, if you could --

MR. MacALLISTER: I can't speak on behalf of the Department, but...

UNIDENTIFIED SPEAKER: Okay. Well, who here can speak on behalf of the department?

MR. MacALLISTER: I'm not sure that this is going to be the venue where that can happen. (Laughter from audience.) This is comments -- this is designed to receive comments, not to discuss the procedures.

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UNIDENTIFIED SPEAKER: So you can't discuss the procedures. (Laughing.) Well, I still want to know what we have to do here, if we have to start all over because you didn't give 15 days' notice, and because the rest of the regulations were not carried out that were part of the original agreement.

MR. JOHN TEGTMEIER: I can answer the question for you to some extent.

UNIDENTIFIED SPEAKER: Okay.

MR. JOHN TEGTMEIER: We did publish in the Albuquerque Journal in advance of 15 days notice.

SPEAKER FROM THE FLOOR: Can you speak up? We can't hear.

(Speakers from the floor were talking at the same time and could not be reported.)

SPEAKER FROM THE FLOOR: Keep in mind the transcript.

MR. JOHN TEGTMEIER: Number one, I will look at the notice and I did -- we did publish notice of this meeting in the Albuquerque Journal North on Sunday, more than 15 days in advance of this meeting. So that --

UNIDENTIFIED SPEAKER: It was Sunday?

MR. JOHN TEGTMEIER: It was Sunday.

SPEAKER FROM THE FLOOR: At Albuquerque

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Journal North?

MR. JOHN TEGTMEIER: At North.

SPEAKER FROM THE FLOOR: North?

MR. JOHN TEGTMEIER: And also in other papers. So we issued the information -- we posted the information on our NNSA Website well in advance of 15 days, including the decision to add this meeting, but I will go back and assure that, and look up when that notice was made, and I do accept the comment, and I will follow up on that.

UNIDENTIFIED SPEAKER: I don't think we get the Albuquerque Journal North in Albuquerque, I think -- at least, I don't get it.

MR. JOHN TEGTMEIER: I will look into it, yeah, but that's my recollection.

SPEAKER FROM THE FLOOR: I don't think that was the --

MR. JOHN TEGTMEIER: Comments, so --

UNIDENTIFIED SPEAKER: But that's not adequate anyway, the Albuquerque Journal is not an adequate notice.

MR. JOHN TEGTMEIER: I will look into it.

MR. MacALLISTER: Comment's noted on the record, so...

Are there other folks that would like to

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make -- yes, sir, would you like to make a comment?

THE REPORTER: Could you get names? You're not getting names.

MR. MacALLISTER: I'm sorry?

THE REPORTER: You're not getting the names.

MR. MacALLISTER: And I'm being asked if people are willing, to please provide their name again for each comment so that our court reporter can get that down for the record. But if you are --

UNIDENTIFIED SPEAKER: You want my name? My name is (inaudible).

MR. MacALLISTER: And that was Floy Barrett speaking.

MS. GREENWALD: And I'm Janet Greenwald. I did say my name.

MR. MacALLISTER: I'm sorry.

UNIDENTIFIED SPEAKER: Okay. I just have a few additional comments to make, because there were a lot of them, second-round comments that were very good, I thought.

432-1 To me, this project looks like it's a make work project for the nuclear industry. It's something that if we're really going to be working for peace, why are we working for war? You know, it

432-1 NNSA notes the commentor's opposition to the nuclear industry. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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just seems incongruous to me. And I think some of the -- I'm guessing at this, so it may not be totally valid. But my assumption is that some of the higher priced people that will be working on this project, after the project is over with, will be able to run home and not worry about any pollution that might occur after the project ends, if any. Let's hope not, okay?

But the record of sites that have nuclear projects going on at them around this country has not in the past been very good. So I'm just -- you know, my lack of confidence, I guess, is showing here.

Another thing that was brought up, not in this particular terminology, was the idea of mutual assured destruction. It seems like maybe we're headed in that direction, if we continue with projects like this, where all we're doing, since we hope never to use the products that we are building, at this high price tag that we're going to be building them at, if it happens, and I hope it doesn't, but we are working toward war again. We talk about peace, but it seems like the whole idea of this project seems to be flying in the face of what we talk about on the surface, our President talks about peace -- or at least in other countries, maybe

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not here, I don't know.

But I know, mutual assured destruction has been normally referred to as mutual assured destruction about -- in the past cold war era of the Soviet Union had an old name, firing its missiles at us, and us firing our missiles at them, and essentially doing in the entire world.

Well, there's another way for mutual assured destruction to occur, and that is, by polluting the world. Fukushima served -- I forgot the entire full name. But the Fukushima problem in Japan that just occurred recently is a good example of there's releases going into the air. I don't know how well we are monitoring our conditions, the changes here in the U.S., and in other parts of the world, but I would imagine, readings have gone up since Fukushima's problem had occurred. Apparently, it's right now in meltdown, from what I understand. But, anyway, even if it isn't --

We've also had releases that have gone into the ocean. Who knows how long or how intense those affects might be in the future?

And we are at a state now with nuclear or nuclear industry, that any accident that happens, does not just affect the place where the accident

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happens. It has the potential for affecting the entire planet. Forget about just the U.S., or wherever an accident might happen. The results of accidents by the nuclear industry can affect us all around the entire world. And I don't think we should accept it.

I'd love to see the nonnuclear nations get together and say, look, we object to you guys having these nuclear power plants, which is a peaceful use of nuclear energy, because if another Fukushima type accident happens, who knows as nuclear plants -- excuse me, as nuclear power plants continue to be developed and produced, they may get bigger, so that the potential is not only for Fukushima, but it could be, maybe ten, a hundred thousand times the Fukushima problem happening.

And, so I think we need to be real careful about how we allow our nuclear industry to operate, and I think that's part of the reason we're questioning the DOE and other groups involved with the nuclear industry. It's just essentially mutual assured destruction in another form, in my mind. I mean, missiles are a very bad thing, and I hope we never have mutual assured destruction, called MAD. It's a very good acronym to remember, it shows how

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mad some of the ideas we have in this world are.

We could be using this money for increasing alternative energy in this country, we could be using it for many, many other things; education, healthcare, lots of other things. These projects are really mad.

I just want to end with a paraphrase, since I don't remember the exact quote, but it was said by one person who I think I'm attributing it to -- I will attribute to them, but you can't work on peace and war at the same time. And it's an old quote -- well, an old paraphrase, since I don't think I have the words down here exactly. But you really can't work on war and peace at the same time. And that was a very wise -- well, I will say smart, maybe not wise. I think it was wise also, probably, but that was, I believe, attributed to Albert Einstein, who had thought a lot about things like this, and, you know, I think we need to end the madness.

(Applause.)

MR. MacALLISTER: Thank you, sir.

Is there anybody who hasn't made a second comment that would like to comment? Sir? Would you like to state your name?

MR. SCOTT WATSON: Yeah, my name is Scott

432-2

432-2 Funding decisions regarding major Federal programs (for example, alternative energy and education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.2, NEPA Process, and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Comments from the Albuquerque, New Mexico Public Hearing (May 23, 2011)

Watson. I would like to thank John for taking his time to do this.

Wow, it's a very emotional issue, I think for a lot of people, and I'm always impressed by these public comments, sort of both sides of the issue.

I guess I will stand in support of the CMRR project. Having been a 45-year resident of Los Alamos, I'm well aware of potential for hazard to my house and my livelihood and my well-being, my family, my friends, my relatives, my children.

433-1

The issues are serious, obviously, in the sense that they take careful consideration, and differing views will be presented here today.

I want to emphasize that my position is based on the professionalism, the expertise, the care, general respect for professionals like John and others who deal with this work, who also have family, children, et cetera, in close proximity to these facilities.

I also lived near Rocky Flats. I spent two tours in Iraq. I was on the BP oil spill effort. I've seen what real disasters are, and I've seen what Los Alamos is. And it is not a disaster site. It is not an accident waiting to happen, or any of the

433-1 NNSA notes commentor's support for the construction of the CMRR-NF.

Comments from the Albuquerque, New Mexico Public Hearing (May 23, 2011)

things that's been characterized here.

So, I just want to leave those comments for those that are interested, perhaps a different perspective. Thank you. (Applause.)

My name is Scott Watson.

SPEAKER FROM THE FLOOR: Do you work at the Labs?

MR. SCOTT WATSON: Yes, sir.

MR. MacALLISTER: Is there anybody else who hasn't already spoken or already made a second comment, who would like to comment? If not, we have time for other comments, and I believe, Mr. Hancock, you had your hand up next.

MR. DON HANCOCK: Just an image that I would like to leave people to think about, and I'd like the Department of Energy to include it in its further discussions. We've talked about numbers. I would hope that most, if not everybody in this room has been at the state capitol building in Santa Fe. The size of the nuclear facility, as being proposed in this document, is 50 percent larger than the state capitol.

So, one can cause a lot of images in terms of the importance of a shiny new bomb plant versus the importance of the state government, and state

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capitol. But think about whether -- and this is a new building. It doesn't talk about the size of the existing facilities of Los Alamos. This is just the new building. What kind of statement that makes in terms of what's important in the state of New Mexico in terms of size and functions of buildings, actual -- the state capitol and proposed nuclear facility.

MR. MacALLISTER: Thank you, sir. You are next. If there's nobody who plans to speak after our next speaker, so I can cue you up, sir. You are next. Ma'am, you're on cue now, and I'm just cuing up the next person.

UNIDENTIFIED SPEAKER: Well, I was thinking as I heard this talk, and I was thinking about the magma. I don't think we've ever measured the exact temperature of the magma at its depth. In other words, we've never been to the center of the Earth. And who was it who wrote, Journey to the Center of the Earth? One of our authors. And, you know, maybe if we dig deep enough, we can measure it. And, you know, I look -- I look at everything in a positive way. I try to make jelly out of berries, you know what I mean, make it a good thing. And I just can't really find -- because everything about the WIPP site

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has been so negative.

When I started with Carlsbad, I tried to save the animals in Carlsbad. The bats -- Phil Ganyon (phonetics) has given up on the bats at Carlsbad Caverns because some of the streams that are supposed to be underneath the WIPP site have been contaminated.

I'm sorry, but there is proof that some of the nuclear energy from the WIPP site is going into Carlsbad Caverns. And I don't like to hear things like that. You know, what are we going to do? How are we going to make this positive? I can't see anything that can make this a positive thing. Why not just take -- dig a deeper hole than we ever had before, or is it to try to make the biggest bomb? What is the purpose of it? What exactly are we really trying to do? And, you know, Russia has a bomb, so we build a bomb. And the Germans had the first bombs, and, you know -- I mean, this goes on and on and on. Why are we competing with our fellow human beings to make the biggest bomb? That is what I can't see.

And, I'm sorry, but I'm tired of talking to the preacher. The preacher knows this. We all know this.

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My point is, how do we spread that information? How do we make it into something that we can really prevent? Because, you know, we can go on in the meeting here, and talking about it, and I've been to these meetings before, and they've never done any good. So why do we have them? Why do we have a U.S. Senate? Why do we have a government? If we can't -- if people can't listen to our concerns and prevent certain things that should not happen in the first place? Why don't we talk about peace? Why don't we make the biggest peace movement in the country? Now that would be something. And then spread it to Mexico, and spread it up to the Norwegians. They are pretty good at peace. And make it grow. I mean, people tried that years ago, but it didn't work. But the bomb worked. And it's money, it's money, and how to get it, and how to keep it. And I'm so against that. I'm sorry, I sometimes get kind of emotional.

MR. MacALLISTER: Sir, you are the next one to speak.

SPEAKER FROM THE FLOOR: You have to give her your name.

Oh.

UNIDENTIFIED SPEAKER: I would just like,

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to --

MR. MacALLISTER: Mention your name if --

UNIDENTIFIED SPEAKER: I don't really want to.

MR. MacALLISTER: Okay.

UNIDENTIFIED SPEAKER: The gentleman back there that works at Los Alamos, Scott, I want to -- I think it's good that you got up here and spoke. I think it's -- it kind of -- it gives us an ability to speak to the people that work for the DOE. And I'm sure that you're a nice guy, you know, I'm sure that if I was driving around Los Alamos, you probably wouldn't cut me off in traffic, you know. But, I happen to know some of the engineers that do sampling in Cochiti Lake. And there is plutonium contamination in the sediments in Cochiti Lake. And I live down the stream from Cochiti. I live in the South Valley, and we irrigate our water. We have a well. And so that water comes from the Rio Grande.

So we're downstream from the pollution that the people that work at the Department of Energy create.

I mean, it's been shown that there are radioactive materials in the Rio Grande River.

So, I don't understand, you know, how, if

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434-1

434-1 There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. A monitoring program is conducted at LANL (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, including reports of contamination in Cochiti Lake and the Rio Grande, and Section 2.5, Cleanup and Waste Management, for more information on cleanup of past contamination.

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you won't cut me off in traffic, it's okay for you to make a living polluting our water and our air.

You know, we're real nice to each other on some surface level, but at -- and the bottom line is, we don't really give a (expletive deleted) about each other, you know, we're going to do whatever we can to make money, and buy nice cars, and have nice houses, and just live the life of luxury. You don't care who it hurts. What you do for a living hurts me. And I don't like that. (Applause.)

MR. SCOTT WATSON: If I may rebut the comments made about what I do for a living.

MR. MacALLISTER: Would you like to come to the --

SPEAKER FROM THE FLOOR: Isn't this a conflict of interest?

MR. SCOTT WATSON: I have heard a lot of discussion this evening about mutual respect or at least respect. With all due respect to you, sir, you have no idea what I do for a living. Okay? You have no idea what motivates me. You have no idea what motivates my neighbors. You have no idea what motivates my father. You have no idea. And for you to make such a comment is pretty far out there. That's really what I have to say about it.

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MR. MacALLISTER: Thank you, sir.

Are there any further comments relevant to the meeting topic on the environmental impact statement?

Okay. Thank you. Thank you very much for your participation. We will be available until 9:00 if there were other comments. I appreciate your courtesy and your civility. Thank you.

(There were no more speakers until close to 9:00.)

MR. MacALLISTER: May I have your attention, please? We have Leona Morgan, who would like to make a comment.

MS. LEONA MORGAN: Hi. Thank you for your time and for hearing me at the very last minute of the hearing tonight. My name is Leona Morgan. I'm Dineh, from the Navajo Nation, and the majority of my family are in the Crownpoint area.

Crownpoint, New Mexico, is one of the communities in eastern Navajo which has been plagued with a lot of contamination from the uranium mining that had gone on during the mid 20th century which contributed to the World War II manufacturing of all those weapons of mass instruction.

Right now one of the issues we're really

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concerned about is not only the building of a new plutonium pit factory and using a lot of money from the United States Government to continue these acts of war. We're also worried about the push for nuclear power because that uranium that supplies the nuclear power plants comes from our area, and a lot of the Navajo communities who have been working against new uranium mining are also dealing with a lot of contamination from past mining. And there's one site in Church Rock which is a Superfund site, and as I understand, the estimated costs for cleaning up just one area goes into the hundreds -- you know, over $100 million for one little area. And that's not to count all of the abandoned uranium mines all over Navajo Nation in New Mexico and in Arizona. So the cost to clean up these contaminated areas is overwhelming.

So I have to just say that I as an individual am against this new LANL building which would also cause a lot more contamination. And if the United States is going to spend billions of dollars, why don't they look at spending it on something which would help out our communities by cleaning up the mess that was left from the last century, so our generation, myself and the people who

435-1

435-1 NNSA acknowledges that there is substantial opposition to the CMRR-NF project, concern regarding waste management, and concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, environmental restoration) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

have not even been born yet -- we're going to inherit this problem that was created by people we've never even met who will not be alive to deal with the radiation that we're going to have to live with. And we know that you can't clean up radiation, once the water is contaminated, once the earth is contaminated, the animals, our food sources, the plants, everything is going to cost not only the lives and the ecological systems, you know. It's going to cause them all to be affected, but it's also going to cost human life, a lot of human lives. And when we're talking about cost of a human life you can't really put a price on that.

435-1 cont'd

So being indigenous, like I said, I'm Navajo, I'm Dineh, and I'm sorry, I should have introduced myself. (In Navajo.) And so speaking from the indigenous perspective, when we lose human life, we also lose our cultural ways, and so whenever we talk about contaminating the earth more, I'm from Navajo and I'm dealing, you know, with the uranium mining. But I know tomorrow night you guys will be in Los Alamos and you'll probably hear from several of the pueblos and those constituents.

So I just want to leave you with a story that I heard last summer from some of the native

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people that live around the Los Alamos National Labs. They, as a sovereign nation, have gone into an agreement with the United States back when this area was first being constructed that is it their patriotic duty to allow the U.S. Government to come in and use their land and their resources to build this plant to "win the war."

So I understand the agreement was that after the war was won, that the U.S. Government would then leave. And so there are plenty of people out there who are waiting for this to happen, and so this agreement has not been forgotten. And so I know a lot of the people who you will speak with tomorrow are going to speak to this. And that is, like the uranium mining, an example of environmental racism. So I would just like you all to know that these issues need to be consulted with on a government-to-government basis and so I think that's one thing that needs to be done. It's not only to have public hearings in Albuquerque like this, but I think you also need to have public hearings in each of the pueblos and all of the native communities downwind from this project.

435-2

And that's all I would like to say, so thank you. Thank you for your time.

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435-2 NNSA has undertaken public outreach efforts to ensure that tribal members understand the project and its implications. NNSA meets regularly with governors and others representing the Pueblos and tribes near LANL. In addition, DOE visited the San Ildefonso Pueblo during the public comment period to discuss the *Draft CMRR-NF SEIS*.

MR. MacALLISTER: Thank you very much. Again, we will be available until 9:00 to take any statements that people want to make.

(The hearing adjourned at 9:02 p.m.)

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Comments from the Albuquerque, New Mexico Public Hearing (May 23, 2011)

STATE OF NEW MEXICO
ss.
COUNTY OF BERNALILLO

REPORTER'S CERTIFICATE

I, BEVERLY ANN SCHLEIMER, New Mexico Certified Court Reporter, DO HEREBY CERTIFY that I did report in stenographic shorthand the proceedings set forth herein, and the foregoing is a true and correct transcript of the proceedings.

In testimony whereof, I have hereunto set my hand on this 30th day of May, 2011.

____
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PUBLIC HEARING
DRAFT CMRR SEIS
CMRR AT TECHNICAL AREA 55 (LOS ALAMOS)
May 24, 2011
5:33 p.m.
Holiday Inn Express
60 Entrada Drive
Los Alamos, New Mexico

Bruce MacAllister, JD, Public Hearing Facilitator
Mr. John Tegtmeier, CMRR SEIS Document Manager

REPORTED BY: Sally Peters, RPR, NM CCR 57
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Comments from the Los Alamos, New Mexico Public Hearing (May 24, 2011)

MR. MacALLISTER: Good evening, folks. If you can take your seats. We will start the meeting.

Good evening and welcome to the second of four LANL CMRR Nuclear Facility Draft Supplemental Environmental Impact Statement public hearings.

My name is Bruce MacAllister. I am the senior principal in a company called Business Excellence Solutions. I am an organizational consultant, community meeting facilitator, and a conflict resolution specialist doing mediation work for the courts and facilitation work around the community.

Let me give you kind of the layout for tonight's meeting. There will be a short presentation of about ten minutes, followed by some introductory ground rules, followed by a period for speakers to come to the podium. We have hand-held mikes tonight. You are not constricted to the podium. If you have notes and want to work from the podium, you are more than welcome to use the podium. On the other hand, if you are not comfortable with the podium, that's fine as well.

Because we have a relatively small number of people signed up to make comments tonight, as soon as we get a final number at the ground rules,

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before I start that comment section, we will give you the exact timeframe on that.

Let me go through a couple of ground rules before we get started and a few reminders. Let me start with emergency exits. There is an emergency exit behind those curtains. That's the quickest way out of the room. As you know, the entrance coming in here also serves as an exit, exit out the hallway and to those front doors. This doorway up here is also an exit. You would exit out this hallway to the front doors. The restroom facilities, if you need them, are out that door to the left and your immediate left. That should take care of the emergency questions.

As you know, we have the poster session going on back here with subject matter experts, who will be available through the course of the meeting to answer questions about the materials there. And I want to outline for you the various ways that are available to you, in addition to this public meeting format, for making comments. There is a big poster back by the table in the back in the rear corner there that has this same information on it.

There are multiple ways that you can make comments between now and June 28th, of this year.

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Comments from the Los Alamos, New Mexico Public Hearing (May 24, 2011)

There is a court reporter available to take your comment directly. We have recording equipment that you can record a statement directly there. Those statements are not limited in time. Of course, they have to be submitted between now and June 28th, but you don't have to worry about a time limitation for the length of your comment. You can submit written comments. There are work stations back there for submitting comments that you can enter through a computer. Of course, you can use the United States mail, fill in a comment form, use e-mail, a toll free phone, fax. And so there are multiple ways that you can get your comments in.

If you do want to make a comment tonight, please be sure that you complete one of the sign-in forms. The way we will take comments tonight is directly off the form in the order in which you signed up to make your comment. I will be calling people to the mike and letting the next person know that they are next so that they can be prepared.

And again, the overall agenda, we will have a 15 minute presentation at the outset by the document manager for the program, John Tegtmeier, and the comment session runs until 9:00. So we will be available between now and 9:00 for anyone who

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chooses to come in, in that timeframe.

The comment period -- let me just double check. Are we still good to go? Okay. So because we have a relatively small number of comments tonight, we would like to give people seven minutes per comment. And we will have a person, a timekeeper sitting up front to keep the time for your comments equivalent. We won't cut you off at exactly seven minutes. You will see a yellow card that will give you a 60 second warning, a minute warning, so that at six minutes you know that it's time to start thinking about your most compelling closing statement, and at seven minutes, you will get a red card. Not like in hockey or soccer. We are not going to kick you out. You will see a red poster, and that's your signal to quickly wrap it up to enable the next person to speak.

After the first round of comments, I will take a show of hands. We will see how many people have additional comments that they would like to make, and based on the show of hands, we will make a determination about timeframes for that, if any. Last night we were able to let people just speak for an unlimited amount of time within reason, and so we anticipate that that will likely be the case

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Comments from the Los Alamos, New Mexico Public Hearing (May 24, 2011)

tonight. We will just see how that goes. Don't hold me to that, pending seeing how many hands might pop up or how many late arrivals may come in.

Other basic ground rules before I turn it over to Mr. Tegtmeier, the meeting is designed principally to focus on the Environmental Impact Statement for the Chemical and Metallurgy Research Replacement Building located at TA-55 here in Los Alamos. The comments are intended to be applied to an assessment of the environmental impact of the construction of that facility.

The officials who are present tonight to answer your technical questions are not available or it's not within their role to answer questions about the larger policies of nuclear weapons, of scientific priorities, that sort of thing. So you are more than welcome to make comments in that regard. However, the officials here won't be in a position that they will be able to respond or answer those types of questions. This is a comment period, so the focus will be on listening to your comments. The role is not to have laboratory officials respond to comments at this point.

If we run out of time tonight, there are two other sessions, and again, the multiple avenues

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Comments from the Los Alamos, New Mexico Public Hearing (May 24, 2011)

for reporting.

So at this point, I will be back at the mike before we start our speaking to remind you of some ground rules for the speakers, but at this point I would like to turn it over to John Tegtmeier, who is the document manager for the project.

MR. TEGTMEIER: Good evening. I thank everyone for attending.

A little bit about my role in the process and a little background on the NEPA process, in particular to this project to date, and then what is going to happen between now roughly and the end of the comment period.

I will start off with just a little background. My role as document manager is to manage the development and preparation of the document. Also one of the big roles I have is to encourage and facilitate public involvement in the process, and I believe that's my most important role. Also one of my roles is to ensure the technical adequacy of the document and adherence to the NEPA regulations both from the Council of Environmental Quality and the Department of Energy.

For this project we prepared an

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Environmental Impact Statement back in 2003, and that was followed by a record of decision in February 2004. And the record of decision, based on the previous Environmental Impact Statement, approved a two building concept to be located at Technical Area 55 at Los Alamos National Laboratory.

The first building is complete at this time, and it's the Radiological Laboratory/Utility/Office Building, or RLUOB, at Technical Area 55. That's largely finished construction, and they are outfitting the space within the facility, and we anticipate people will be moving into offices and other facilities probably within the next six months or so, then sometime next year into the laboratory space in that facility.

The second building is currently in design, and that's the CMRR nuclear facility, and that's the main focus but not the entire focus of this Environmental Impact Statement Supplement, and I will get into that a little more in a second.

Since the 2003 EIS and the 2004 Record of Decision, some new information has come to light about the project and the location where it's proposed to be sited at this time. Some additional geological mapping was done in 2006 timeframe, and a

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lot of that is depicted on the posters, and you are free to ask questions about that process. They did borehole drilling, they did fracture mapping, and they were looking in large part for the presence of faults in the vicinity. That was one aspect of the geologic mapping.

In addition, a new seismic study was done for the Los Alamos area, primarily focused on the area between Technical Area 55 and Technical Area 3, and that is a required ten year update of the probabilistic seismic hazard analysis. Each DOE site has the requirement to do that. So that document was completed in 2007, and it identified an increase in the horizontal and vertical ground motions associated with proposed earthquakes with different return periods here at the site. So as that new design information became available, that was some of the information that was briefed at the semi-annual project meetings that many of you have attended.

Based on that new information, last year the laboratory prepared a supplement analysis which is part of the NEPA process when you have an existing Environmental Impact Statement. So the supplement analysis is a further look at new

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information to determine whether any additional NEPA documentation is required, and that was submitted to the Los Alamos site office last summer.

In between that period of time, a decision was made to actually go ahead and prepare the Supplemental Environmental Impact Statement for the project. So we issued a Notice of Intent in the Federal Register on October 1st last year, and we had a 30 day period for scoping which was extended. We had two public scoping meetings in White Rock and Pojoaque.

So having that information from scoping, looking at new information, and also looking at new requirements for the NEPA process, some of those in the Department of Energy realm, we looked at some new analyses. So one of those areas of new analysis that is described and analyzed in the Environmental Impact Statement is greenhouse gas emissions.

We also looked at intentional destructive acts, you know, terrorist acts, things that might create scenarios that would have environmental impacts, impacts to workers, the public, or the environment. We also did a new analysis of the transportation of demolition waste. One of the Record of Decisions also was to completely demolish

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the CMR Building when operations were suspended, so we did a transportation analysis for that demolition waste.

The analyses we updated, including the construction impacts. In order to meet the new seismic requirements, the building would need to be built stronger. There is more concrete, more reinforcing steel, more structural steel, more excavation, more disturbed areas to support the activities, like lay-down areas, et cetera. Here again, that information is available in any questions from the subject matter experts.

We also looked at operations impacts, not only for the new proposed facility, but also, since it's fairly complete and we understand RLUOB, operational impacts associated with RLUOB and the existing Chemical and Metallurgy Research Building at Technical Area 3. We also updated the accident analysis for the CMR Building. We have a documented safety analysis that the department approved last summer, and we also have the latest preliminary documented safety analysis for the proposed new facility. So that's also reflected in the document and a specific appendix.

We also updated some human health impacts

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from radiological emissions due to operations. Part of that was due to some new changes in the modeling technique, and additionally we focused on some of the information available to date from the latest census.

The alternatives that we currently have in the Draft Supplemental EIS, we have a No Action Alternative, which is to construct and operate the nuclear facility as it was described in the Record of Decision in analyzing the 2003 EIS. In that sense, a No Action Alternative is not to change the action or change the decision that was made at the time. So that's kind of maintaining the status quo in NEPA space. That's a common way to look at no action.

We also have the modified CMRR Nuclear Facility Alternative, which is to construct and operate the new nuclear facility at Technical Area 55, certain design and construction modifications that address the changes to the seismic safety and geological conditions of the site.

We currently have two options, a deep and shallow excavation option. The shallow excavation option is new, since the time of the Notice of Intent back in October, based on information that

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the continuing design efforts have shed light on, so that is still under work. Here again, that's described back in the posters. We also have a continued use of the CMR Building alternative, which is also described in the document, and that's the no construction alternative, and that's not to construct a replacement and maintain the limited set of operations in the CMR Building as long as feasible and still meet the safety requirements.

As far as this document process, since the scoping, we posted the Draft Supplemental EIS for the project on our NEPA web page, the NNSA NEPA web page on April 22nd, and the Notice of Availability was published by the Environmental Protection Agency the following Friday on April 29th, which technically started the 45 day comment period.

The NNSA, based on requests from the general public, extended the comment period by 15 days, and that decision was made on May 6th of this year, and now the public comment period extends to June 28th, as Bruce mentioned.

Bruce also mentioned the public hearings. I just wanted to reiterate those. In addition to this evening, we have a meeting tomorrow evening at the Santa Claran Hotel in Española. That same

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timeframe, same format, same procedures we will go through, so that will happen tomorrow evening. And also in Santa Fe on Thursday evening, same time, same format, at the Santa Fe Community College south of town.

Just a little bit more on the comments that Bruce mentioned. There are a number of ways to provide comments on the draft document. I encourage everyone to participate in that. You are not limited to just one set of comments. You can make multiple comments over time, many mechanisms. As I said, one of my main roles is to encourage and facilitate that participation.

So we are really looking at comments on what's in the draft document -- alternatives, analyses, we may have done, impacts, et cetera. So that's what we are hoping to get. And I just want to remind you that anyone is welcome to provide comments as a private citizen, no matter who your employer, so we would encourage that, but as a private citizen. I know there may be some interest out there.

And with that, I would like to turn it back over to Bruce, and we will start with the rest of the meeting.

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MR. MacALLISTER: Thank you, John.

MR. TEGTMEIER: Thank you.

MR. MacALLISTER: Just a few more brief comments, and then we will tie into our comment session. There are a few ground rules that I want to lay out for you all just to make sure that we are reminded that this is an official public hearing. The comments are being recorded. They will be distributed to multiple sources for multiple reasons.

And accordingly, since this is a public hearing, we are required to expect appropriate decorum in the meeting. So I'm going to be asking you all to please wait until your scheduled time to comment. And because we are transcribing the comments, it's extremely important that people speak one at a time. Comments from the audience make it difficult for the transcribers to hear the transcription, and I will be asking people, if they are carrying on conversations or making comments from the audience, to kindly step outside to have those conversations and to please refrain from making comments to the commentator as they are making their comments so that we can keep the flow of the meeting moving and the comments clear and

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concise in the record.

You are not absolutely required to do this if you feel like it's not something you are comfortable with. We do request that you identify yourself at the beginning of your statement. That allows the court reporter to know where the first person started, the next person started, that sort of thing. If you are not comfortable with that, please talk to me and we will identify you by speaker number.

Again, please keep the process civil and keep your language civil and appropriate. Remember, again, this is an official public hearing, and we will have plenty of time for rounds of additional comments. So for the first round, to ensure that everybody has a chance to speak without having to wait too long to make their comments, please abide by the time limits that we have set, which will be a seven minute timeframe with a warning at six minutes. So please yield the mike to me if I request it at that seven minutes. All right.

And just as a matter of courtesy to others, please silence your cell phones and any other noise-making devices that you might have on your person. I hear some going off right now.

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And at this point, I would like to recognize two public officials in the house. We have Matthew Roybal, who is the constituent liaison and IT administrator for Mr. Ben Ray Lujan.

Mr. Roybal, thank you for coming.

We have representative Nick Salazar of the New Mexico legislature here with us. Thank you, Mr. Salazar, for attending. I appreciate your interest.

At this point, again, I will make the podium available and a mike available. You are not required to use the podium if you don't want to. You can speak wherever you are comfortable up here, so as long as the court reporter can see you and basically follow what you are saying. And I will be calling people by name, and I will be letting the next person in line know that they are on deck, so to speak, to be the next speaker.

So without further adieu, let me call Ray M. Baca, and he will be followed by Danny Beavers.

Thank you, Mr. Baca, and I think this mike actually works better. If it doesn't you can have this one.

MR. RAY M. BACA: Thank you very much.

Again, my name is Ray Baca. I am the

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executive director for the New Mexico Building Trades Council. In that capacity, I represent all of the construction labor unions here in the state of New Mexico, including approximately 800 construction and maintenance workers who currently work at the laboratory. These are good-paying, family-sustaining jobs that unfortunately are otherwise not available in northern New Mexico and not for a long distance.

Let me remind everybody that the construction industry in New Mexico is in dire straits. It is in a depressed mode like it is in much of the country. The unemployment rates for construction workers in New Mexico is fully double if not triple the rates of the average unemployed New Mexican. It is not uncommon to see unemployment rates and under employment rates of 25 to 28 percent in many of the crafts that are represented.

The project, the CMR project, if it ever comes to be, would employ upwards of 1,000 construction workers off and on over the course of a 10 to 12 year period. Obviously this would be a huge boost to the construction industry in New Mexico, but much, much importantly, it would be a huge boost to the construction families in New

501-1

501-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

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Mexico who are in dire need of these positions.

With all due respect to those people who are opposed to this project and other similar projects, we respectfully urge the laboratory and DOE and all the other powers that be to begin this project sooner than later. Thank you.

501-1 cont'd

MR. MacALLISTER: Thank you, sir.

Danny Beavers followed by Robert Carman.

MR. DANNY BEAVERS: My name is Danny Beavers. I am a business representative for Plumbers and Pipefitters, Local Union 412. We represent approximately 2,000 members across the state of New Mexico. And I am here to speak in favor of the project also, not only for the economic impact to the state of New Mexico, northern New Mexico, the construction industry itself, but my understanding, if I remember correctly, the facility that is scheduled to be replaced is probably 60 years old.

There is going to be nuclear weapons and there is going to be things of that nature as long as the country and the world is in the state that it's in. I would just as soon have them done in a brand new, state-of-the-art facility that's built to the codes and the specs that it needs to be built at

502-1

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502-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Special designs, operations, and procedural measures to protect workers and the public would be incorporated into the design and operation of the CMRR-NF. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

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than in the antiquated facility that I worked in when I worked up here 20 years ago and was built by my father who has been a member of this union for 55 years. So the building is antiquated. It needs to be replaced.

Not only will we have a safer facility. TA-55 itself I worked on 34 years ago when they were building it, so that shows the age of that facility. So they both need to be worked on, replaced, and kept up, and not to mention the thousand construction jobs, the money that that would create through the state, and the economic impact it would have throughout northern New Mexico, so I do support this project. Thank you.

502-1 cont'd

MR. MacALLISTER: Thank you, sir.

Robert Carman followed by Alfred Arias.

MR. ROBERT CARMAN: Good evening, everyone. My name is Robert Carman. I was born in Los Alamos about one year after the Soviet Union detonated their first atomic bomb. My father, who was drafted into the army, was sent to Los Alamos and helped design and build all the first atomic weapons. I guess, as such I could be considered an offspring of the atomic age.

I have an uncle who was blown to

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smithereens up here in the '50s when a chemistry experiment went terribly wrong. I have other relatives who have died slow and painful deaths working at the former DP plutonium sites. As a teenager during the '60s, I remember reading that the United States and the Soviet Union had enough nuclear weapons at that time between them to blow the earth up several hundred times.

Why stop there? Why not keep building these weapons of mass destruction until we can destroy the earth a million times? I only have three wishes for such an event. No. 1, that I be under the first one of these gadgets to be detonated in order that my atoms might be scattered throughout the universe in search of a sane place to rest.

No. 2, that all of you who design these things and your loved ones survive this event, temporarily safe in the underground bunkers which you have undoubtedly designed and created for just such an occasion.

No. 3, that you drive out of your bunkers in your armored humvees, and as you and your loved ones slowly begin to succumb to the inevitable horror of your act, you have plenty of time to contemplate what you have done to this earth and to

503-1

503-1 NNSA notes the commentor's opposition to nuclear weapons and nuclear facilities. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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the miracle we have come to refer to as life.

Genocide is too kind a word for what you are contemplating. Genocide implies the indiscriminate death of humans. Your endeavors will result in the death of the planet earth.

I do have one tidbit to offer, however, and that is that the Cold War is over. Why not do something nondestructive with all the resources at your disposal?

503-1 cont'd

Thank you very much. Have a nice day.

MR. MacALLISTER: Thank you, sir.

Alfred Arias followed by Michael Loya.

MR. ALFRED A. ARIAS: I am Alfred Arias. I am a representative of Local Union 412, Plumbers and Pipefitters Union.

We need work. We need this project to get off the ground. We need it. We don't need no more delays. We need it to get going.

504-1

The United States is a top dog of the world, and they need to stay on top of everything, including nuclear power. You know, as long as we are the top dog of the world, you know, there is people in the world that hate the United States, that hate United States citizens, and if the United States starts showing weaknesses and weaknesses and

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starts showing that we are weak, you know, the Chinese, people are going to come in and take over.

And, you know, the reason why there has been no nuclear war in the last 60 years is because we have been the top dog in the world. And also, you know, what Danny Beavers said, there are a thousand jobs here on the line, and the construction industry is like 30, 40 percent unemployed right now. And there are families that need to get fed. There is little boys and girls that need to get fed. We just need to proceed with this project and get it going fast and get it done. Thank you.

504-1 cont'd

MR. MacALLISTER: Thank you, sir.

Michael Loya followed by Reverend Holly Beaumont.

MR. MICHAEL LOYA: My name is Michael Loya, and I am happy to be here to make my comments. I want to say first of all that I am a generational New Mexican, and I am a history buff, and it is very important that I state my comments today. I have had the fortune of analyzing a lot of data on the cleanup up here at Los Alamos, so this is also very important and another reason why I am here to speak about this.

What I think, too, is also that because of

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this lab, it put an end, an early end to this war, to World War II, and I think that that was very important. That's a very important thing.

I have generational ties to New Mexico. My dad's first cousin, who my grandparents raised, flew with Billy Mitchell, and it was amazing that I lived in a house where my dad and mom lived World War II. My parents were farmers and ranchers down south, and they were downwinders when they detonated the first bomb there at Trinity site. I have talked about this story before, but it woke my dad up and he got mad and he stayed mad the rest of his life.

He almost lived until he was 90 years old. So he was a quite a fellow. He was also one of the first farmers and ranchers in New Mexico to have prisoners of war on the farm. That was just a wonderful thing. There is a lot of stories about that. We don't believe in war, but we believe that if you are going to get into the war, you need to have the biggest stick there, and this is very important that we have this facility here, not just on account of the jobs.

The jobs are very important, but technically this is very important. These gentlemen are working in facilities that are very, very old.

505-1

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505-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Special designs, operations, and procedural measures to protect the workers and public would be incorporated into the design and operation of the CMRR-NF.

As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. See Section 2.7, Economic Impacts, of this CRD for more information.

I don't know. They are over 60 years old now, and I believe it's time that these facilities are upgraded, and they bring all these safety components to this new facility. I think that's very important.

505-1 cont'd

I know that back when I was younger, I had the opportunity of talking to a lot of New Mexico gentlemen that we used to rope with on the farm, and they used to talk about serving in the Pacific and how they were thankful that they did have these bombs to put a quick end to the war in Japan in the Pacific. It was very important, because we would have lost hundreds of thousands of boys out there if it hadn't been for Oppenheimer and his group. I think that's very important.

Another thing, too, is the financial implications here. These gentlemen from the trade unions and stuff brought up something that's very, very important and it's very critical, that it's time that we move forward with this project and we put people to work. People need to work. People want to work. And this is very important.

This lab has done a great service to New Mexico and, yes, there has been problems with health and whatever, but that's just the fallout, but they

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have done a lot of things now to upgrade the facilities and the working environment. That's been very crucial, and I find that very important. And I believe this facility is going to even make the working environment for the people that work in these departments even safer. And I thank them and I thank their bosses, and I thank the government moving forward with this.

505-1 cont'd

A lot of people have to understand about the geopolitical problems that are going on right now. We have some very serious things going on in the Middle East. Pakistan right now is in a big push. They built another facility, and they are in a big push to build more weapons. So we have to be ready. We have to make sure that we are armed, because -- I have said this before at the last comment period -- you can't take a knife to a gunfight. So we have to be ready for this.

I had the great honor here a while back. I was in west Texas, and this is when the fires were going on, and we were staying in a motel. There was this little gentleman, and I kept noticing him. He was just a wonderful guy. He had a smile, and we started talking. He was an old cowboy and he saw me there with my hat, so we were starting to talk. And

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this gentleman was one of the sailors on the Abbot Merrill. I believe that's the way you pronounce it, but that was a ship tender and it was a sea plane tender, and he was involved in Operation Crossroads.

I sat there for hours and I was listening to what this gentleman had to say. He said it was very important -- because he was there during World War II -- he said it was very important that we had these weapons to defend ourselves. Yes, there is a mountain of weapons and, yes, we can destroy the world multiple times, but we are going to have to be ready. There's very serious things going on. There's very serious implications if we are not prepared, and I believe it's very important that we move ahead as quickly as possible with this facility. Thank you. Am I cut off?

MR. MacALLISTER: No, you're good. You're fine.

MR. LOYA: Good.

MR. MacALLISTER: Reverend Holly Beaumont followed by Johnnie Martinez.

REVEREND HOLLY BEAUMONT: Thank you. I am the Reverend Holly Beaumont with Las Mujeres Hablan.

I want to begin by saying that I have deep regard and respect for people who devoted their

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lives to the Los Alamos National Laboratory, who are very proud that they helped to build it and sustain it by serving it. We don't always agree with the results in nuclear weapons, but that's really not what we want to talk about tonight.

What we want to talk about is that Los Alamos National Laboratory, I think in a real way, does not exist anymore, because as of 2006, the Bush administration turned the national laboratory over to Bechtel, and that's what we want to talk about in the next few minutes. One of the first things that Bechtel did was throw out a $500 million original plan and start over again. So already the cost is $500 million and proceeded from there to where we are today with costs continuing to escalate. So as I was doing some research, I realized that Bechtel has left quite a global footprint.

506-1

Which continent would you like to begin with? Let's begin with North America. In North America Bechtel is responsible for "The Big Dig." This is the design of the Boston Central Artery Tunnel project in which Interstate 95 passes under the city. The federally funded project is the most costly civil engineering undertaking in US history. It was estimated at $2.5 billion in 1985. Project

506-1 DOE and NNSA continue to provide oversight of LANL as in the past. The managing and operating contract for LANL was openly competed in 2005 for the first time in the 63-year history of the LANL site. Through 2005, the University of California had been the sole managing and operation contractor for the LANL site since its creation in 1943. The new managing and operating contractor, Los Alamos National Security, LLC, began managing LANL in June 2006. The selection of a new managing and operating contractor did not change the DOE and NNSA work performed at LANL.

expenses reached 14.6 billion in 2003. Watchdogs argued that it is extremely rare for a company to design, receive several construction contracts, and manage a project as huge as "The Big Deal."

Bechtel's gross errors included the complete absence of the planned Fleet Center -- they just overlooked the convention center in their plans -- and also an active nine foot wide pipe carrying sewage and storm runoff where planners had drawn a support wall and could not sustain the tunnel wall. So this is one of the examples of the work that Bechtel has taken on in North America.

We could go from there to the Bay Area Rapid Transit. I won't bore you with the details. This is all online. Suffice it to say that the project suffered numerous delays, massive cost overruns, as well as several accusations of fraud. In April 2000, two BART board members said they would block seismic retrofitting if Bechtel won the contract due to their poor record on human rights, minority contracting, cost overruns. There were 4 million in cost overruns and huge delays.

Then we can go on to the Alaska pipeline. The Alyeska Pipeline Service Company awarded Bechtel the role of prime management at $8 billion. Soon

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afterward, Alyeska claimed that Bechtel over-staffed senior level executives to multiply the charges on the cost plus contract, over-filed for pipeline workers, and that the project was plagued with on-site thievery, feather-bedding, low productivity, and conspicuous supply problems. Furthermore, Bechtel stood accused of ordering the quality control staff to falsify thousands of x-rays and pipeline welds in order to accelerate construction.

In May 1975, Alyeska -- I don't know how to pronounce it -- fired Bechtel for overall mismanagement. That is North America.

We can go on to talk about what happened in South America with the Bolivian privatization of water that the indigenous people were dependent on. That resulted in Bechtel actually suing this impoverished nation for millions of dollars for not allowing them to complete the project.

We can move from South America to Asia and discuss the Basra Children's Hospital in Iraq. It's now actually listed as a completed project when, in fact, it was not completed. At the time that it was listed as completed, it was only 35 percent finished, and that's when they stopped. The original cost was estimated at 50 million, and by

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the next year, June 2006, the project was already 18 months behind timeline. And in 2007, it was awarded an additional $41.1 million. Maybe that was billion.

So I won't take up any more time except to say that this is my question, our question: How much profit does Bechtel have to make before it decides to abandon a project? I can't find a project anywhere, anywhere that Bechtel has actually completed. I wouldn't even judge it as successful or not, but I am not even finding projects that they have actually completed. So our question is: How much time is left for Bechtel on CMRR before you will be abandoning this project? How close are we to that timeline? And how much do you think it will ultimately cost us before you walk away from it?

Thank you.

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MR. MacALLISTER: Johnnie Martinez.

MR. MARTINEZ: Good evening. My name is Johnny Martinez. I am a 61-year resident of Northern New Mexico and 36-year employee of the Los Alamos National Laboratories. I'm also a father and a grandfather who is concerned about the safety and security of his family.

507-1

I support the Chemistry and Metallurgy Research Replacement Project, and I have several reasons for doing so that I'd like to share with you. First regarding national security, I believe very strongly in the value of nuclear weapons as deterrence to all-out global warfare. I've had the fortune of working in the weapons program here in the laboratory, and that was a driving consideration in not only my doing so but I saw this evident in my colleagues as well.

As Dr. Norris Bradbury, a former director of the laboratory, so aptly stated -- and I know I'm paraphrasing -- the purpose of nuclear weapons is not to use them but to force people to find other means to solve their differences. I am proud to be part of an institution that's helped make these final words a reality.

I am also personally convinced that the science and technology underpinning this nation's

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507-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF.

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nuclear deterrence capabilities must be maintained and should, in fact, be strengthened to address new challenges posed by terrorism and proliferation of nuclear weapons and nuclear materials as well. The CMRR facility is designed to address these national security needs and, therefore, support construction and operation as a safe and effective resource for doing so.

Regarding the environment, as Danny mentioned earlier, the existing CMR Building is old. In fact, it's almost as old as I am, and I believe continued operation poses a much greater potential threat to the environment than does the proposed CMRR facility.

I've had the opportunity to attend briefings and tours of the CMRR system facility, the RLUOB, the Radiological Laboratory/Utility/Office Building, and I've gotten to the conviction that environmental safety is a key component in the plans for the CMRR's facilities construction and will be a fundamental element to its operation.

Regarding the economy -- and you've heard this from other people -- Northern New Mexico was selected in 1943 as the site of the Manhattan Project because of its isolation. Northern New Mexico is still relatively isolated, and many of us remain very

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dependent on LANL as an economic resource. And that's a situation that I think has been -- if anything, strengthened as a result of the recent global economic condition.

The CMRR project will present employment and procurement opportunities in Northern New Mexico that would otherwise be difficult or nearly impossible to find in today's economic environment. *507-2*

So I thank you for the opportunity to share my thoughts this evening.

MR. MacALLISTER: Is there anybody else who completed a card that I did not call?

All right. We have plenty of time available for additional comments. How many people would like to make comments?

All right. What I'll do for this follow-up comment session is just call as people raise their hands, and I'll try to recognize people in order and try to keep to that order as best as my old mind will work. Okay?

So, sir, if you'd like to make a comment, you're welcome at this time.

MR. MANSFIELD: Thank you.

My name is Charles Mansfield. I'm a lab retiree, president of the Laboratory Retiree Group. And

507-2 The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

I actually operate three small businesses in the community, so many would say that I have flunked Retirement 101.

The thing that I would like to touch on is a story that I have learned over the years that some years -- probably 15, 20 years ago, a scientist in the laboratory was messing around with an ink jet printer and realized that if he put an electric charge on the -- across the stream of ink, he could deflect it from one side to another. It turns out that lasers were really getting going good at the time, and, you know, he was explaining this to another colleague.

The colleague said, Well, if he used a laser with the right wavelength and I have a droplet of material which has a very small amount of impurities in it and I need to get rid of the impurities, could you detect the impurity? Let's try it. Turns out that they could detect the impurity in a drop as small as an ink jet printer drop. There was an empirically picked reject bucket. If it was good stuff, you let it go into the main bucket.

Another colleague came in and said, Well, could you do this with organic molecules? The guy said, I suppose we could; let's try it. Where can I find organic molecules?

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What they invented then was called the Coulter Counter. That became the Human Genome Project. For the first time, the laboratory began sequencing the human genome. Was it important to the Department of Energy? Yes. The Department of Energy was concerned about radioactive material -- of changes to the DNA. Eventually, the project grew so big and so fast that the DOE said, Let's turn this over to private industry, and now you have genetic analysis being done commercially in the country; all because people, in this case, who worked in the CMR Building had the freedom to ask questions and to develop new ideas. And this is probably the main reason for continuing with this type of research. It has very little to do with weapons and research itself, but it does advance the nation's capabilities and meets the needs that the nation has. *508-1*

Thank you.

MR. MacALLISTER: Thank you, sir.

Other folks who would like to comment? Anybody else?

Sir.

MR. KOVAC: Thank you.

My name is Scott Kovac with Nuclear Watch New Mexico.

First off, I would like to re-state my *509-1*

508-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Refer to Section 2.4, CMR Mission, of this CRD for more information.

509-1 Comment noted.

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request from last night, that we actually have a presentation. You mentioned -- you know, give a little presentation; you know, explain the posters. I find it hard to -- I think it's hard sometimes for the public to -- you know, until they get their feet wet and to know what the right questions are to ask. And, you know, there are very friendly people over at the posters, but it may seem intimidating. For some people, it's not the best -- it's not the best forum. I would still like to see a presentation at the beginning of the -- of the hearing.

509-1 cont'd

For instance, you mentioned greenhouse gases. Like how many -- like, you know, what are the greenhouse gas emissions? Is there a greenhouse gas poster back there? I don't know if there is. It'd be nice to know what the water usage is, what the waste generation is of the CMRR. It would be nice to know, you know, what the electricity usage is going to be and items like that.

And it's all in the -- it's all in the SEIS, but it's just a matter of, you know, getting the information out to the public.

509-2

I also appreciate the work that the laboratory does. I know that there's many, many good things that come out of the lab. And we -- but, you

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509-2 The *CMRR-NF SEIS* includes an analysis of the impacts of the proposed alternatives with respect to greenhouse gas emissions. Refer to Chapter 4, Sections 4.2.4.2, 4.3.4.2, and 4.4.4.2 of the SEIS. For all alternatives, annual greenhouse gas emissions during construction and operation would be below the draft CEQ guidance threshold that would require a more-detailed evaluation. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management for more information on Waste Management.

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know, the Cold War is over. We won. Let's get -- let's move on. And we want jobs. The, you know, true cleanup at the lab, including the removal of the waste from Area G, would -- you know, my estimations -- and we have the -- we have some reports out. You know, removal of the waste from Area G is a thousand jobs for 20 years, you know. And so, you know, if you want jobs, let's clean up the lab. Let's spend -- let's do some nonproliferation work. Let's -- you know, let's do actual science at the lab. There are other things we can do.

509-3

Oh, and speaking of jobs, I also had one question about the Supplemental Environmental Impact Statement, stating that the deep excavation option will take the same amount of time to build as the shallow excavation option. Both of these -- both of these time frames are given as nine years. The deep excavation option has 225,000, 250,000 of cubic yards of concrete and a hole, which, you know, from the -- from the EIS, is approximately 200 days or, you know, for -- just to pour the concrete. I don't know. Those numbers aren't really given. But, you know -- you know, it's going to take about a year, I think, to do -- a year longer to do the deep excavation option, and that's just not -- it's not included in the SEIS, best I can tell. And it's

509-4

509-3 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Consent Order and Waste Management, of this CRD for more information.

The CMR Building and CMRR-NF support nonproliferation activities, and LANL has a number of ongoing activities that support scientific and technology-development efforts.

509-4 As indicated in the Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS*, it is estimated that construction of the Modified CMRR-NF would take 9 years to complete under either construction option. The additional excavation and concrete pouring required for the Deep Excavation Option is not a time limiting activity for completing the project. These activities would be conducted in parallel with other site preparation and startup work required at the site regardless of the construction option selected.

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509-3 cont'd

listed as ten more employees -- ten more workers for the -- for the longer -- for the longer period of time, for the deep excavation.

Thank you.

MR. MacALLISTER: I'd like to call Kathy Keith to the podium, please.

MS. KEITH: Thank you for the opportunity to comment tonight. My name is Kathy Keith. I'm the executive director of the Regional Development Corporation, otherwise known as the RDC. The RDC is a multicounty economic development organization in Northern New Mexico with a position to create a sustainable and diverse economy.

510-1

I come to speak in support of the economic impasse of the proposed CMRR Project in Northern New Mexico. Our economy in Northern New Mexico, much like the economy of the country, has been much affected by the downturn over the last three-and-a-half years. We have seen unemployment spike from about three percent in 2008 to double digits in the counties that surround Los Alamos and Northern New Mexico, and that's a seven-county region.

We are truly, in Northern New Mexico, a diverse economic region. In Los Alamos County, the medium household income is over $100,000 a year, and our

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510-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for construction workers that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

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surrounding six counties where poverty rates almost equal to and sometimes four times greater than those in Appalachia.

What we understand about the CMRR Project is that it will produce up to 400 jobs per year over an eight-year time period in Northern New Mexico and help us with that unemployment rate that has spiked to sometimes double digits over the last three years in the region.

We also estimate that from those 400 jobs, there will be another 2000 jobs created indirectly in our economy when an investment is made over an eight-year period of a multibillion dollar construction project. These jobs are desperately needed in the area of Northern New Mexico and especially in the construction industries, where we've seen real downturn over the last three years and spikes in unemployment levels.

So I thank you for the opportunity to come tonight and speak in favor of the economic impacts of the proposed CMRR Project in Northern New Mexico.

510-1 cont'd

MR. MacALLISTER: Are there other people who haven't already spoken who would like to make a comment?

Are there people who have already spoken

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that would like to make a follow-up comment?

At this point, we will recess. We will be here until 9:00, but feel free to get up and move around, check out the displays. If you want to make a comment through another channel, those stations will be available until 9:00. And thank you for attending and for your participation. We deeply appreciate it. Thank you.

Just a reminder: We'll take any public comments to be developed, afterthoughts or additional thinking as you are here in the meeting room.

(No speakers, 6:32 p.m. to 7:29 p.m.)

MR. MacALLISTER: Folks, just a reminder, we're taking public comment. That's just my periodic reminder in case anybody arrived late. We are still open for business and taking comments until 9:00.

(No speakers, 7:36 p.m. to 8:00 p.m.)

MR. MacALLISTER: Just in case you haven't heard the previous announcements, if you've come in late, we're still open and taking comments, and we welcome more comments. Thank you.

(No speakers, 8:00 p.m. to 8:58 p.m.)

MR. MacALLISTER: This is the official notice that the meeting is formally closed. Thank you.

(The public hearing concluded, 8:58 p.m.)

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(The following is a non-public comment provided to the court reporter, 7:29 p.m. to 7:36 p.m.)

MR. STEINHAUS: My name is Kurt Steinhaus, and I was born in Los Alamos. I'm a lab employee, work for the Community Programs Office. And I'm a parent of two children, so I'm here as a citizen of the United States and a parent as well.

My comments will be in four categories: Safety, national security, environment and economic involvement.

My father was one of the first people to move into Wing 7 of the CMR Building and spent most of his career in Wing 7, in the field of physics and spectroscopy. And as a child, the lab had visit-your-dad day or work, and so I got to see Wing 7 of the CMR Building as a child. And I've recently taken community leaders on tours of the CMR Building and can see that the building is old. It doesn't meet modern safety standards, and for that reason, I think it's essential that the U.S. Government build a new facility.

And I had the fortune of listening to briefings about the design of the new CMRR, and I believe that the lab has been thoughtful and careful in planning the safety requirements for the new building. ***511-1***

511-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Special designs, operations, and procedural measures to protect workers and the public would be incorporated into the design and operation of the CMRR-NF.

And I feel confident that it will be a safe building, not only for the employees but also for the surrounding citizens of Northern New Mexico. So that's safety.

Under national security, I believe that science and technology is the fundamental and primary underpinning of the lab's work in meeting our national security mission, and CMRR is an essential part of the science and technology that's necessary for that national security -- to meet that national security.

Under environment, I've had the fortune of reading briefings about the Environmental Impact Statement and the process that was followed and the process that's being followed right now, and I believe that those will cover the important issues that need to be addressed to make sure that CMRR is environmentally sound and meets all of the federal requirements for an environmentally safe building. That's environment and economy.

I know that the economy of Northern New Mexico will be impacted in a very positive way with the construction of CMRR and the surrounding buildings, and for that reason, I think all of us should join in supporting this initiative.

And with that, I'd like to say thank you for the opportunity to provide my comments.

511-1 cont'd

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Comments from the Los Alamos, New Mexico Public Hearing (May 24, 2011)

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTERS

I, SALLY PETERS, New Mexico Certified Court Reporter No. 57, and Registered Professional Reporter, and I, MARY C. HANKINS, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing public hearing comments in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

____
SALLY PETERS
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Date of CCR Expiration: 12/31/2011

____
MARY C. HANKINS
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New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2011

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Date taken: May 24, 2011
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Comments from the Española, New Mexico Public Hearing (May 25, 2011)

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PUBLIC HEARING

DRAFT CMRR SEIS

CMRR AT TECHNICAL AREA 55 (LOS ALAMOS)

Santa Claran Hotel

464 N. Riverside Drive

Española, New Mexico

May 25, 2011
5:00 p.m.

REPORTED BY: Beverly Ann Schleimer, RDR NMCCR #66
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(5:30 p.m.)

Welcome, ladies and gentlemen. My name is Bruce MacAllister. I will be your facilitator for the meeting tonight. I work for an organization called Business Excellence Solutions, which is a consortium of professionals who conduct mediations, community facilitations, and organizational excellence consulting, and I have been facilitating the last two meetings.

We will have a meeting again tomorrow night at the Santa Fe Community College.

Let me start by reminding everyone who wants to speak publicly, that there's a registration table over right by the front door. Please complete a registration card, because the way the process will work, we will take comments in the order in which we receive the registration cards, for the first round.

Let me remind you that if you don't choose to speak publicly, that's fine. If you still want to give a comment, there are at least nine ways you can give a comment.

First, there's a kiosk at the back with a computer workstation with a recording station back there for verbal comments. There is a place to receive handwritten, written comments. There's an

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e-mail venue, the comments can be received by mail, facsimile, or given directly to a court reporter at the back of the room.

If you want to make a public statement, we will be doing that by working off of the registration cards, and we will explain that process in just a few minutes.

The meeting will begin with a brief -- about a 15-minute presentation by the Document Manager for the project, John Tegtmeier, who is up at the front table here.

And following that presentation, we will move directly into the comment period, and comments will first be taken from elected officials, followed by folks in the order that they completed their cards.

Now, let me just check right now. Are there any elected officials in the room who would like to be recognized, or who intend to comment? Please raise your hand if there are. All right, so that eliminates that.

The focus of this hearing is to receive comments relating to the Draft Supplemental Environmental Impact Statement for the Chemistry and Metallurgy Research Building, a replacement facility,

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the nuclear portion of that, the nuclear facility located near TA-55 in Los Alamos, New Mexico.

The meeting is not designed to be a question and answer session. It's a formal comment period designed to enable the public to voice their opinion, and to express comments and concerns relative to the construction and the environmental impact for the construction of this facility.

Based on the number of comments we have, we will be providing the standard five-minute window for people to give their verbal comment.

We will have a person placed in the front row, immediately in front of the podium, so that people who are speaking will be able to see that person. And at the four-minute milestone, that person will hold up a yellow sheet of paper to let you know that you have a minute left.

When you see a red card flash up, it doesn't mean that you're kicked out of the soccer game or out of the hockey game. What that means is your five minutes is up, okay?

Please, help me honor everybody else in the room by respecting the time limits and allowing the next person to take the mike after that.

What I will be doing to keep the flow as

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quick as possible in the comment window, is calling out the first name of the person who is up -- calling out first the name of the person who is up, not just their first name, followed by the person who will be next, so that the speaker who is coming up next can be ready to come and take the mike at the conclusion of the previous speaker.

There are subject matter experts over in the poster session area available to answer technical questions about the project. They are not here or authorized or working at the level where they are able to comment or respond about larger issues of national policy around nuclear weapons or around the overall programmatic directions of the nation or the laboratory. They are here to answer your technical questions about the Environmental Impact Statement and about the facility that is under consideration.

If we run out of time tonight, again, there are multiple avenues to give your comments at the back of the room. And in addition, there will be another meeting tomorrow night at the Santa Fe Community College in Santa Fe, New Mexico. So we will have other avenues.

The comment window for giving comments runs through June 28th, 2011. So there will be plenty of

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time to submit statements by mail, statements by e-mail, fax, toll-free phone line, and so there are multiple avenues to give your comment.

So at this time, I would like to turn the floor over to the Document Manager, John Tegtmeier. Following his presentation, I will review a few ground rules for the next phase of that, but we will get to that point at that time.

MR. TEGTMEIER: Thank you. Thank you, Bruce.

First of all, I would like to welcome everyone here to the hearing. I appreciate the turnout. I truly am looking forward to comments on this draft document. Just a little bit about me and my role in this document.

I work for the National Nuclear Security Administration, Los Alamos Site Office. And my role in this project is the Document Manager. So I'm responsible for a number of things; the preparation of the document itself, and also I think my largest role, my most important role, is to encourage and facilitate public comment on the draft document. I take that very seriously.

So, one of my other roles and responsibilities is to ensure the technical adequacy

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of the document, and is to ensure compliance with the NEPA policy, National Environmental Policy Act requirements, as well as the DOE implementing requirements.

So I just wanted to start with a little background of the NEPA history behind this project, and then talk a little bit more about the specifics of what might be in the document as far as a general nature, and then also the process now between June 28th.

We prepared an Environmental Impact Statement for this project back in late 2003. It was issued in November of 2003. There's a Record of Decision prepared, and it was issued in February of 2004.

The decision out of that Environmental Impact Analysis from 2003 approved a two-building concept to Technical Area 55.

The first building of that proposed construction project is the Radiological Laboratory Utility Office Building, which is virtually complete at this time. And it's being outfitted with laboratory equipment and office equipment for moving individuals into their offices in the facility, I believe later this year, and then into laboratory

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space sometime next year. So that first phase is complete.

The second building is currently designed. That's the nuclear facility portion of the project, as Bruce mentioned. That's also adjacent to the facility at Technical Area 55.

Since the time of the preparation of the 2003 EIS, and the issuance of the Record of Decision, additional geological site mapping was done in 2006. A lot of that is represented on the poster sessions there, and some of you may have asked some questions about some specifics.

And a couple of things came out of that. One of them is they had looked at the site, and they did fracture mapping, and they did some borehole investigation of the physical site, looking for more understanding of the geologic nature of the site that was proposed to be built on it.

In addition, a new seismic study was done, actually an update, in 2007. The DOE requires at each facility around the complex, to do a ten-year basis, a review of the potential seismic issues at each site. And, so, that was completed in 2007.

The result of that was increased ground accelerations associated with the expected earthquake

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of a certain return period, like the earthquake would come every 2,500 years, for example.

So as new information became available, not only the geotechnical information, and seismic response information, the project continued on with its preliminary design, and it was identified that the facility would have to be built much more robustly to resist those earthquake ground motions. And a Supplemental Analysis was done to look at the potential changes to the assumed environmental impacts and various resource areas as described in 2003.

So that Supplement Analysis was completed by Los Alamos National Laboratory in the summer of last year, and submitted to our office at the Los Alamos Site Office for review.

Before a final decision was made based on that SA, NNSA decided to go ahead and prepare a Supplemental Environmental Impact Statement to address the changes.

A Notice of Intent was issued on the attempt to prepare the Supplemental EIS, was issued on October 1st of 2010. And we had two public scoping meetings in White Rock and Pojoaque.

We factored in that information in looking

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at the input and continuing of the design information, and also looked at new requirements since 2003, as far as the nature of things that we needed to analyze or update.

So the new document described in some detail the impacts of greenhouse gas emissions, from both construction operations and operations following the completion of the facility.

We also did an intentional destructive acts analysis, basically terrorist-type activities, something that might cause something in the facility that could impact the environment or the public.

And we also did a separate update, or really a fairly new analysis of the transportation of the demolition waste from the current Chemistry ans Metallurgy Building, which is nearing 60 years old right now.

Some of these analyses we updated, we updated, as I mentioned, the construction impacts. We also looked at the operations impacts, not only for the proposed nuclear facility, but for the RLUOB facility I mentioned earlier, and the ongoing operations of the Chemistry and Metallurgy Research Building itself, the older facility, because per the schedule and the new construction, it would be

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required to be operated for longer than anticipated in 2003. So that's in the document, as well.

We also updated the accident analysis for the proposed new project, the nuclear facility, and for the existing facility, based on very recent documented safety analyses that our office approved last year.

And we also updated the human health impacts and radiological impacts. Part of that was changed in modeling, and in looking at populations at various distances from the facility. And, also, we took advantage and used the latest census data available at the time.

All of that information hasn't come in, but as it does, we'll fold that into the final document.

The alternatives are, as described in the supplemental, we have a No Action Alternative, which is construct and operate the facility as it was described in 2003, and the decision basis in 2004 Record of Decision. In the sense it's a No Action Alternative, in that it doesn't change the past NEPA decision. And so that's a way of looking at the No Action Alternative.

We also have the modified CMRR Nuclear Facility alternative, basically looked at the changes

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in the construction and operations of the new facility, which is required to be larger, albeit for the same programmatic operations, to resist the seismic forces we get sitting on the new geologic information we have.

We also updated to look at the latest nuclear safety requirements, because that's a key part.

Since the scoping meeting, the project team has identified, in addition in that, two options now. In the Notice of Intent, that preferred alternative was described as the deep excavation option. What we have to do is a lot more excavation into the volcanic tuff.

The project's identified and is working to develop a shallow excavation option, and those analyses of proposed options are in the document.

We also have continued use of the CMR building alternative, and that's what you would consider the no construction alternative. So that's in there. So, we can update the continued use of that building at a reduced capability, until the new project, as proposed, should we decide to continue it, and finish that building, those operations enter into a little bit further into the future.

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So as far as the actual NEPA process for this document today, we posted the Draft Supplemental EIS on our usual NNSA web page on April 22nd, while we sent out documents to those that had requested them on April 21st. And the EPA published a Notice of Availability of the draft document for public comment on Friday, April 29. And that started the original 45-day comment period.

We had requests to extend that period, and the NNSA decided to extend that period by 15 days on May 6th. And, so, now the comment period runs through June 28th.

Bruce mentioned the public hearings. We had a hearing in Albuquerque on Monday, Los Alamos yesterday evening, this evening here in Española. And then we have another hearing, same format, same time, in Santa Fe at the community college tomorrow evening.

And Bruce mentioned many of the ways to submit comments. I just wanted to reinforce that and encourage everyone that there's no limit on how many times you can comment, how many ways you can comment. And I just wanted to point that out. We've had questions in the past.

I just wanted to wrap that up, and we are

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not here to answer questions, but you can put a question in a comment.

But with that, I would like to turn it back to Bruce, and we will go ahead and get started with the main part of our hearing this evening. Bruce.

MR. MacALLISTER: Okay. Once again, if there's anybody who would like to speak publicly and you haven't completed this card, please see the kind folks at the front table there right by the front door, and we will complete this card.

If I didn't mention the emergency exits and facilities, the restrooms are right under that exit sign over to your right. The main exit, of course, is the entrance that you came in to join the meeting today. There's another emergency exit over to your far right, almost behind you, at the back of the room there, that you can use if we need to.

Let me go through a couple of ground rules for the rest of the night, and then we will get started.

Let me just double-check, are there any elected officials that have shown up since I asked earlier?

Okay. I'm going to call names, as I described. I will call the first person followed

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by -- and I will tell the next person who is on deck, so to speak, to be ready.

Because we are transcribing each person's comment, and people are speaking into the mike, it is imperative that we have as quiet a room as possible so that the court reporter can get the one person speaking, the content of their communication down. So comments from the floor will not be appropriate in this meeting. I will not tolerate people interrupting the speakers, because the court reporters will be dutifully trying to get the speakers comments transcribed.

Please identify yourself each time you come to the podium. It is likely, although not guaranteed, just depending on how many people register, that we will have time for follow-up comments. We have in every meeting so far, and it looks promising that we will be able to do that tonight.

So each time you come to the podium, please give your name so that the court reporter can keep track of who is making the comments. If for any reason, you're not comfortable using your name, that's acceptable, but please use a speaker number which, if I come to a card here that doesn't have a

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name, I will be calling you out by a number, all right?

Again, please, honor the process by keeping your comments civil. This is an official hearing. This is an official document that's being generated. This will be read by a number of people, so we want the comments to be in an appropriate language. You're certainly free, and very grateful to have you here to voice your many varied opinions.

The time frame, again, will be five minutes per comment. My cohort back here in the front of the room will be holding up a yellow piece of paper, which will notify you when you are at four minutes, which will give you a full minute to wrap up. When you see the red card, please wrap up as quickly as you can reach an appropriate end. You don't have to stop mid-sentence, but don't carry on into your next paragraph.

If you have written statements that you are reading from, and you would like to give those, leave those to ensure that your statement is accurately transcribed. You are most welcome to give those to me, and I will see that they get to the court reporter.

And just as a final note, we're all living

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in that modern age where the kids are going to be calling us or what have you, please silence your cell phones, and anything else that might go off, alarms of any kind, so that we can keep the flow of the meeting as uninterrupted as possible.

If anybody needs assistance getting to the mike or needs other physical assistance, just kindly contact me, and I will help you, you know, any way, if necessary. Again, we will only be taking comments from the podium tonight, with the exception, as I explained before, that you are welcome to give as long a comment as you want in the audio recording back there, or enter one in the computer, or submit a written comment. There are no time limitations on those as far as the duration of the comments.

All comments are, however, due by June 28th.

So without further ado, let's get started with the process, and let me call the first speaker to the podium and notify who the second person is.

Our first speaker tonight is Ray Baca, and he will be followed by Danny Beavers. Thank you.

MR. RAY BACA: Good evening. My name is Ray Baca, and I am the Executive Director for the New Mexico Building Trades Council. In that

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capacity, I represent all of the construction labor unions here in the State of New Mexico. And this includes approximately 800 workers, construction and maintenance workers who are currently employed by the Laboratory.

These are good-paying, family-sustaining jobs. I would like to just respectfully remind everybody here that the unemployment rate for construction workers in New Mexico, as it is in much of the country, is at least double, and in many cases, triple that of the average unemployed worker. It is not uncommon for us to see unemployment rates, or under-employment rates of 25 to 28 percent in many of our crafts that we represent.

This means not only unemployed workers, but families that are seriously hurting in many, many, spectrums -- the full spectrum of our whole society, in many communities that we represent across the state, and obviously across the country.

If this project, the CMR project comes to be, and comes to fruition, it will employ upwards of 1,000 construction workers off and on over the course of a 10- to 12-year period. Obviously, this would be a huge boost to the construction industry in New Mexico for overall economic development, but most

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601-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

importantly, it will be a huge boost for those working construction families who are currently in very dire straits.

With all due respect to those of you who are opposed to this project, we respectfully ask the Laboratory and DOE, and all of the other powers that be, to begin this project sooner than later.

Thank you. (Applause.)

MR. MacALLISTER: Our second speaker will be Danny Beavers followed by Stuart Barger.

MR. DANNY BEAVERS: Good evening. My name is Danny Beavers. I'm a business representative for Plumbers and Pipefitters Local Union 412. I worked in Los Alamos for many years prior to being a business representative.

I'm here to tonight to speak in favor of this project for some of the reasons Ray Baca spoke of, the economic impact to the local communities and to the state, as well as the fact that the building that they are looking to replace, the CMR building, has been operating since the early '60s, late '50s.

I -- this is, myself, I did live in Española for many years, I have family that lives here, and I'd rather see them have a new state-of-the-art building processing, and working on

601-1 cont'd

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602-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

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this type of equipment and weapons, than to have a building that's 60 or 70 years old.

And, therefore, the United Association would like to stand in favor of this, and would request that we continue with it.

Thank you.

MR. MacALLISTER: Our next speaker is Stuart Barger, followed by Mike Gomez.

MR. STUART BARGER: My name is Stuart Barger. I live in La Puebla. I live downwind of Los Alamos. The only justification for the existence of government is to protect its people. Why then is our government committed to our destruction? You who are here tonight promoting this project, following the footsteps of J. Robert Oppenheimer, you have become death, the destroyer of worlds. Since 1943, you have poisoned our Earth, poisoned our water, poisoned our air, poisoned our people, poisoned our children, all to create weapons of mass destruction.

The projected cost of this facility is estimated now at $5.86 billion. Imagine what good, instead of evil, could be done with this money. Use it to decontaminate our land, purify our waters, cure our people, save our children.

As now proposed, this facility will have

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603-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government and notes commentor's opposition to the CMRR-NF. Funding decisions regarding major Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

There is not, nor would there be, plutonium production at LANL. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. Please refer to Section 2.4, CMRR Mission, of this CRD for more information.

the capacity to produce 6,000 kilograms of plutonium. That's enough for 9 million nuclear weapons, 9 million nuclear weapons. How many worlds do you need to destroy? Why do you not include the alternative to stop the production of plutonium?

603-1 cont'd

So, how dare you come here tonight promoting this abomination. How dare you come here. Have you no conscience, have you no morals? Have you no soul? Be gone from this place. Go home to your families and tell them that today you have promoted the destruction of our environment, the deaths of our people. Won't they be proud? You are guilty of committing crimes against humanity. The Nazi concentration camps provided great employment opportunities for prison guards. We have just convicted the last of those.

Thank you. (Applause.)

MR. MacALLISTER: Our next speaker is Mike Gomez, followed by a gentleman whose handwriting I'm having -- I believe it's Charles or --

SPEAKER FROM THE FLOOR: Churlo.

MR. MacALLISTER: Churlo? Is it Churlo?

SPEAKER FROM THE FLOOR: I don't know. Did you sign up?

MR. MIKE GOMEZ: Hello, I'm Mike Gomez, and

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I represent the Sheet Metal Workers' Local 49.

I understand this project has got many concerns, and many hopes in the public eyes. I would like to endorse the project because of the fact that Los Alamos has been there for years, and it seems like the government does their best to keep everything safe. I haven't seen any big nuclear accidents there. I haven't heard of any big contaminations. So, I'm thinking about the living now, and not the potential of killing. I don't want to think about that.

SPEAKER FROM THE FLOOR: Boy, you're making a WIPP --

MR. MacALLISTER: Excuse me, no comments from the floor. Zero tolerance.

MR. MIKE GOMEZ: And why be negative? Let's be positive. The positive impact of this is great for the economy of New Mexico. It's good for our families, for their future. I know that the opinions are, you know, yes and no. So my opinion is, yes, because New Mexico needs this in these dark economic times.

So, I do approve the construction of this facility for the good of the people in the area, and for the good of New Mexico as a whole.

604-1

604-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

Thank you.

MR. MacALLISTER: Thank you, sir. Our next speaker will be Churlo, followed by Tara Somerville. Thank you.

CHURLO: What's your name?

MR. MacALLISTER: Bruce.

CHURLO: Bruce. My fellow Americans, let's go over some terms here. America. We know that, right? This is the place we live. Fear factor, what our government thrives on, you know, with fear comes weakness. With fear, with weakness, comes illness. See, our government wants to keep us dumb and stupid, and they want to do stuff like build a bomb. How many do we have stockpiled there, Bruce? How much? You don't know? Do we need to build more? Can we -- you know, can we put nuclear waste in your next Rolls-Royce?

Anyway, sure our economic times might be hard, but only for a thousand people to get a job that might pay well, that might not give them cancer, or growth defects, that won't contaminate water for thousands of people that we have to consume because the WIPP site is built on one of the largest aquifers in the southwest, Bruce, yeah, yeah, yeah, Texas got us, okay, that as well. Texas, how does that song go

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605-1 NNSA notes the commentor's statements.

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(made inaudible noise). You know, we're back in Texas -- wait, New Mexico.

Anyway, so, I'm representing kids 10 years old and under only because mommy's got a -- babysitting them with video game or something, TV dinner, Happy Meal. But the bottom line, it's those people that are going to suffer with that waste. Where are we going to put that? Here we are. Where do you live? Los Alamos, right there, right by the trashcans.

Water contamination, hum. Environmental racism, let's go with a question mark, because Los Alamos County is one of the fifth richest counties per capita in the nation. But how many people live there? So just a few thousand people, hum, you guys are tripping that, get another job.

Let's see. Where was I? Cancer's on the rise. We talked about that. Birth defects. Environmental risks, yeah, yeah, yeah, yeah. Top shelf radiation. I know you like to drink top-shelf liquor, but top-shelf radiation, okay, put this in a tin can, right? You're going to put this down in salt mines, okay. Not going to contaminate the water, okay.

(Laughing.) I'm almost done. How much

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time do I have, timekeeper?

SPEAKER FROM THE FLOOR: A minute.

CHURLO: God. Oh, oh, yeah, you know why no politicians are here today? Payoff, hush money. And all of the union guys, okay, okay, my family is starving, all right, go get food stamps, okay? And then try to find another job, (laughing). Maybe you want to be a sound engineer or something, work in the television station or something. I don't know. Used cars. Oh, no way. Yeah, the money contributions. How much did you give to the party? Ha-ha-ha.

Anyways, you guys that build your bombs are really -- you guys are really insecure. We don't need any more. We need to destroy the ones we've got. Like I told Norm over here, dad-gum them, build a bomb, get your ass there and fix it, will you? (Laughing.) Put your ass to work, come on, man. Fix what you've got, and put it in the trunk of your car.

Did we learn from Hiroshima or we go to El Paso, because of that explosion. The guys that built it? He was so proud, he was so proud he killed millions of people. He affected their lives for generations to come. Ha, ha, ha, he's bad, like, you know what I'm saying. (Laughing.)

So, like I said, change your way of

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thinking, because when you started making this waste here, everybody else is going to come here and New Mexico's a victim, New Mexico's a state, a state that can't talk. Only we can talk for it, its land, its water, its animals, it is pristine.

Valles Caldera volcano, boom, you know, it could go off, and I don't know, just because they did that bomb there, early payoff for Los Alamos to set this place up. It's all about money. Money, money, money, money, money, I just got a hundred grand a year. How about the new roadways? That's right. What do you think of that? But my friends down the road in Española where water wells are contaminated already, already contaminated. They are. And people live here, make a livelihood. Just a few in Española, oh, a junk heap, no problem, there's a few here, there's a few everywhere.

But the bottom line is human life. And we don't have to think about -- consider about human life. We don't need to think about destruction. For some odd reason those two don't go together hand-in-hand.

I've got to go. (Applause.)

MR. MacALLISTER: Our next speaker is Tara Somerville, followed by Emmy Koponen.

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MS. TARA SOMERVILLE: Hi. I'm here to voice opposition to the construction of the new CMRR-NF building at Los Alamos National Labs for the following reasons: One, I'm opposed to the construction of new nuclear weapons, their capacity for genocide and massive long-lasting environmental damage, makes their use by anyone for any reason morally reprehensible, and their construction, as well. **606-1**

And, also, two, the enormous amount of money slated for the project could be used for the betterment of our state and nation towards building up green energy industries, like solar and wind power and organic farm projects. **606-2**

And, three, I've lived in Taos since 2005, and have been a business owner since 2008, and thought I've only been here since 2005, two friends, Marilyn Hopp and Jean Green, explained that the smoke from the Cerro Grande Fire in 2000, made it to Taos, and the descriptions were that it was like it was snowing ash. People got sick with symptoms ranging from respiratory infections and headaches, to brain tumors.

In Taos, we are downwind from Los Alamos, and that fire proved it. And this also underscores **606-3**

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606-1 NNSA notes the commentor's opposition to the CMRR-NF project and nuclear weapons. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

606-2 Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

606-3 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

A number of studies have been conducted on the potential health impacts of the 2000 Cerro Grande fire. A summary of possible public health impacts resulting from the fire is included in Chapter 4, Section 4.6.1.3, of the 2008 *LANL SWEIS* (DOE 2008a). As indicated in this section, an independent assessment of public health risk associated with LANL area air contamination as a result of the fire was conducted by Risk Assessment Corporation at the request of NMED (RAC 2002). The study examined data on contaminants that were measured in air, on smoke particles, and in soil from the potential release sites and concluded that exposure to LANL-derived chemicals and radionuclides released to the air during the Cerro Grande fire did not result in a significant increase in health risk over the risk from the fire itself. This section of the *LANL SWEIS* also discusses the *Public Health Assessment* (ATSDR 2006), for which the Agency for Toxic Substances and Disease Registry (ATSDR) reviewed environmental monitoring data from 1980 to 2001 and concluded that no harmful exposures

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the fact that a full public hearing should also be held in Taos, because many of us had to drive many miles to come here today to be here for this. (Applause.) Thank you. (Applause.)

606-3 cont'd

MR. MacALLISTER: Our next speaker is Emma Koponen, followed by Paula Seaton.

MS. EMMA KOPONEN: I'm number 7, and I would like to have number 3's comment emphasized, because I don't have written comments. But if you love life, if you honor the planet, you would not be doing this, because it's wrong, it is immoral. You get another job, please. Do something.

Let's have other energy. We have minds, supposedly good minds at Los Alamos, please do something useful with them.

Children, the elderly, the education, my goodness, there's so many good things for $5.86 billion, that's 586,000,000, I mean, how much money, and your little construction jobs, you could build greenhouses. You could build root cellars, you could build something for the future.

607-1

So, I'm not going to say much more, but I do feel from a nuclear safety expert who dived off the Taos Bridge not long ago, it was supposedly a suicide, but his car was left running, his money is

due to chemical or radioactive contamination detected in groundwater, surface soil, surface water and sediment, air, or biota are occurring or are expected to occur in the future. The data considered in the ATSDR assessment included at least one full year of environmental monitoring results from the period following the Cerro Grande fire.

607-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

being left to the Animal Humane Society, and I have so many doubts about honesty. Thank you.

(Applause.)

MR. MacALLISTER: Our next speaker is Paula Seaton, followed by Ann Hendrie. Can I adjust this mike for you?

MS. PAULA SEATON: Today, when I was thinking about coming to the hearing, I felt like, why bother, why bother coming to another hearing when it takes time, energy, and money, and pretend that we are being heard? And it's just psychologically heartbreaking to come to these things. It takes so much out of me, and I know all of you. And we drove from Dixon, 35 miles from here.

608-1 And I am very sorry that there is not a scheduled hearing in Taos. I know there's a lot of people in that area that really wanted to speak out. And in these financial times it's hard to travel that distance.

We've had so many people in our community, that's Dixon and Embudo area, that have died in the last three to five years or have been diagnosed with cancers, pulmonary diseases, and heart disease, which I really believe are the outcome of living downwind of LANL, and may be due to Cerro Grande Fire.

608-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

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I grew up in the northeastern corner of the state, and my parents both had two types of cancer. They both died of cancer. And we -- you know, I can't help but think that where I grew up, it was really right in the middle of where LANL, Pantex and Rocky Flats, all kind of are surrounded by that whole area.

I feel that we really need to spend our money wisely at this point, and this is a horrible, horrible waste of money.

I would like to thank all of the people that are continually dedicating their lives to fight and speak out for the truth.

And we live in this area, most of us can't afford health insurance, but we're living downwind from LANL, and I think that the government should definitely be paying for all of our health insurance.

One more thing, I'd like to say. The other night I had a dream about Sherry Kakowski, and she was walking on a tightrope, and she was walking across something like the Rio Grande Gorge, and it was on international media, and I happened to turn on the TV, and there she was, and she had a wireless microphone, and she was taking each step, and she was telling the world, it was international media, about

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what's happening here, and I feel like I'm going to hate to give Sherry an idea, but it might take that. Thanks. (Applause.)

MR. MacALLISTER: Our next speaker is Ann Hendrie, followed by David Bacon.

MS. HENDRIE: My name is Ann Hendrie. I wrote comments because I was afraid of crying.

First of all, I want to thank the Greg Mellos of the world, the Concerned Citizens for Nuclear Safety, Nuclear Watchdog, and Los Alamos Study Group, and all those here who have voluntarily dedicated some, if not a lot, of their energy and lives to questioning the viability of our nuclear present and future. This presence of conscience in the face of seemingly insurmountable odds is the only reassuring glimpse of sanity in this room.

I have two questions for the representatives of the nuclear defense and energy industry which I would like to resurrect from the drowning of industry propaganda to which we are all subjected. These two questions are: Why do we need more nuclear warheads? To answer that first question, we need only to look at who profits from them. As for really deploying them, any one of them, I believe the US has already made its point to the

609-1

609-1 NNSA notes the commentor's opposition to nuclear warheads. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

Regarding the commentor's concern about managing risks in the nuclear industry, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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world in 1945.

The second question is: Does the nuclear industry have the incentive, much less the means, of assessing the true risks and costs of nuclear? I suggest that economic psychology and history might provide some answers. Psychologically speaking, we do a bad job in managing risks when they are so enormous and unpredictable. We have little empirical basis for judging rare events, so it is difficult to arrive at good estimates. After Chernobyl and now Japan, there's not been even the resources or means to collect that data accurately. And when corporations run the show, there might be few incentives to think hard at all. On the contrary, when others hear the cost of mistakes, the incentives favor self-delusion.

609-1 cont'd

Experts assure us that new technology all but eliminates the risk of catastrophe. Events prove them wrong. Not only do the risks exist, but their consequences are so enormous that they easily erase the supposed benefits of nuclear technology. What insurance company is willing to be liable in case of a nuclear catastrophe? None. Thanks to the US 1957 Price-Anderson Nuclear Industries Indemnity Act, Bechtel in this case, passes off liability to the

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public.

Is the nuclear industry lobby willing to rescind that Act? So we can conclude that a system that socializes losses and privatizes gains is doomed to mismanage risk. Compounding this self-delusion of the industry is the secrecy surrounding the nuclear industry which prevents the public from gaining much information about risks arising from their operations, much less in knowing how to protect themselves in the event of a crisis. What are the so-called emergency escape routes for Española residents, much less for the Japanese? What escape route exists when it affects the whole planet? And if university professors are hindered in the research programs to study the toxicological effects of long-term low-level exposure to radionuclides contamination, how can we adequately trace the effects back to the source? And who pays and will pay for the next 100-plus-thousand years for the still unmanaged disposal of nuclear waste? After 50 years of trying, no acceptable solutions for long- -- and I mean long- -- term storage of nuclear waste has been found. That, even by good business standards, should be unacceptable. But not, as I said, if paid for by the public. If the costs are hidden, who is

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to blame?

So we can conclude that vested interests caused the nuclear industry to compulsively underestimate these costs and the risks. I do not think there is any doubt left in the public mind that our political institutions are too weak to stand up to the nuclear lobby, in terms of safety. So who is to lobby for the environment, for the uranium miners, for the populations downwind, for nature? Only the few Greg Mellos, Joni Arends, Jay Coghlans, et cetera, and us. That's who.

Even though the nuclear industry has put millions into propaganda to assure us that the risks are all but nonexistent, there are historical facts and geological uncertainties which do unquestionably exist. What political institution do you consider secure after our Arab Spring? After acknowledging who's profiting and who's paying for nuclear? Are nuclear proliferation or terrorists a part of the Environmental Impact Statement? They should be, because they, too, are part of the hidden costs of our nuclear folly. And if the experts want to argue that we need the weapons industry to supply the fuel for nuclear energy to combat global warming, that so-called solution would be, at best, only

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609-2 Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. NNSA has prepared a classified appendix to the *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Refer to Chapter 4, Section 4.2.10.3, Intentional Destructive Acts, for a summary of the classified appendix.

transitional. The deployment of new nuclear energy plants cannot be done quickly enough to mitigate global warming. It takes ten years to build one, and then their output would only take care of a fraction of our energy demand, not to mention that the cost of dealing with one meltdown is sufficient to move the entire world to solar power over a 20-year period. Once the transition to solar is achieved, guess what? The fuel is free.

And while I'm on the subject, it's worth noting that the nuclear industry has suppressed renewable energy development for decades. In addition, ironically, as these hidden costs of nuclear power are rising astronomically, the cost of wind and solar power is falling fast.

So in conclusion, it is logical that our nuclear industry, so embedded with the defense and energy interests of this country as they are, is deaf to all our pleas for rationality and morality, as their present existence depends on the continued funding of this insanity. But if you, dear LANL employees, are so enamored with nuclear energy that you cannot grasp the scale of the disaster in Japan and the ongoing threat of all our nuclear adventures to the entire planet, then you lose all moral

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credibility and any claim to rationality.

(Applause.)

MR. MacALLISTER: Thank you. David Bacon followed by -- pardon me if I mispronounce your last name -- Joan Logghe.

MR. DAVID BACON: Good job. That's a hard act to follow. There's so many substories going on here. There's one that all this money is going to Bechtel, one of the worst, most corrupt corporations in the world, as far as I can tell, and one of the most incompetent. I don't know if you all have seen a movie called "Why We Fight," but it showed how Bechtel poisoned all of our soldiers in Iraq, just in the most irresponsible and completely, you know, disregarding way.

The other story that -- I was just standing there now -- is how stupid is our federal government? You know, there's 500 representatives and 100 senators, and one president, and the nuclear industry can just take them down any road they want to. 350 million is what this thing started out at -- I love these figures, as if they're real -- and someone told Congress, "It's only going to cost $350 million." And then later they say, "No, it's going to go up to like $5.87 billion," and Congress apparently every

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time goes, "Okay. Okay. We got the money."

There's this sense that no one's awake at the wheel in this country. One of the women in Albuquerque, when she took the mike the second time -- because they couldn't figure out even five minutes per person or three minutes per person in Albuquerque. It was beyond their math capability. But one of the women who took the microphone the second time just said, "You people are incompetent."

And it's these kinds of truths that I come to these meetings for, because the intelligence in this room is at such a higher level than the intelligence of our federal congressional delegation, it's really quite nice to be around.

It looks like with Fukushima, Fukushima is in a serious, serious situation right now. It is not in any way done. The level of radioactivity coming off Fukushima is still incredibly high. They are admitting that a lot of the major accidents happened during the earthquake, not the tsunami. It looks like we might see Germany and Japan get completely off nuclear. That's quite a possibility right now. You're going to see two of the major technological countries in the world start going down another route, and that is an exciting thing. As usual,

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610-1 NNSA acknowledges the commentor's concern that an accident similar to the one that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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we'll be lagging behind, because of the power of the nuclear industry.

The thing that really scares me about this is, they're going to have six metric tons of plutonium in this building, and we know that that's going to be a disaster. We don't know how big, but I don't see how it could be anything but. It's time that we stop accepting the colonization of New Mexico as a nuclear colony. That's not going to be easy, but we have to do it. There's no future in being a nuclear colony, especially now. We know what the future is. It's a future of death, destruction, and high, high amounts of poisoning.

610-2 We, with this money -- I did the math. I went to Bingaman's Senate Subcommittee -- or Senate Committee Panel on Global Climate Change, Colorado River Basin, Rio Grande River Basin. He was told by three guys that we are in bad trouble. We're in trouble with decreased snow pack, decreased river flow, storms will get bigger but less frequent. We need to pay attention now to our entire ecosystem. The six billion would put 12,000 people to work at $30 an hour for ten years. That's how much that would cover. They could then be looking at watershed restoration, forest restoration, grassland

610-2 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs (for example, renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

restoration, local agriculture, and an intelligent energy system. We have millions of acres of forests in northern New Mexico that are in dire need of thinning, and the Forest Service itself doesn't even have the money to do that. So we could put -- we could -- and I feel like we really have to begin to insist now and put pressure on our congressional delegations to put no more money down a nuclear rat hole and start putting it into the communities in northern New Mexico, hire people to go to work at good wages, and to begin to restore our ecosystems and stop poisoning them. Thank you. (Applause.)

610-2 cont'd

MR. MacALLISTER: One request. I appreciate the applause. I understand why you're going to want to applaud speakers. If you can hold your applause until the end of the speaker's talk, that will allow our court reporters to catch everything that they say. If you applaud, the court reporters may miss something in the middle of the statement. So I appreciate your help with that.

Joan Logghe. Pardon me if I'm mispronouncing that. That's right? Followed by Melissa Larson.

MS. JOAN LOGGHE: Hi. David Bacon, before this started, was saying that there are different

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kinds of truths, and maybe mine speaks from a more emotional level. I'm the mother of three, grandmother of three, and have lived in the valley for 38 years. I remember going to bed at night and just praying that we'd be okay living by Los Alamos. You know, many of us grew up in the Cold War era. We didn't know a life that didn't have the bomb.

And I'm part -- when they say Environmental Impact Statement, they mention the communities. I'm part of the environment that is impacted by this. I have never seen data on what's going on in my community in terms of the radiation. This doesn't seem to be available, and yet this is a community of scientists. There's a pollen count on the news every night in the spring. We talk about our allergies. We don't want there to have to be a radiation count, but I think that would be appropriate. Just like they have, elm, mulberry, plutonium. I don't know. I'm not a scientist. A count. Accountability.

611-1

I feel like some of you aren't -- I feel like the people in Los Alamos have good hearts and they want for their families and they -- I really believe this. And they're scientists, and for one reason or another, this is the path that their life has led them to take. But I feel like we all have

611-1 NNSA notes the commentor's concerns about emissions from LANL. Results from environmental monitoring of air and water emissions at LANL are reported annually in the reports available at http://www.lanl.gov/environment/all/esr.shtml.

good hearts and that the more we separate ourselves from that, the less likely we are to hear one another.

Maybe it's because I'm a poet, and I feel like the way we can get to truth is by accessing each other's hearts and intelligence in that way. But I'm really against nuclear proliferation, both bombs and power. I have been saying for years, can't we take all these brilliant minds and turn them to the good that we know we can create? We're humans. We're so imaginative. We've invented pizza and sonnets and Swahili and Little Debbie cakes, and all kinds of amazing things. You know, we can do this if we access each other's intelligent hearts.

When there was the big Cerro Grande Fire, my husband was up there. He was working at the County at the time. In La Puebla, where I live, I was driving to Santa Fe to work. I teach poetry. It's a very high-paying job. And all over my house, there was an orange -- all over La Puebla, it was orange. And then I drove to Santa Fe and people were having lattes, and I was like, don't they know the world is coming to an end, in a way? And then I drove back that night, and we watched Los Alamos burn, and our hearts were all broken for that. And I

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611-2 NNSA notes the commentor's opposition to nuclear proliferation. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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thought, we have so much compassion, and we went and worked at the Red Cross, we have compassion for this community. I think this is an opportunity for change for hearts and minds to change.

And then Japan. I mean, things are built, and then these unimaginable situations happen. Oh, we never imagined this could happen. And yet it keeps happening in the most unimaginable way. So even though we're beefing up, we don't know how things can shake down.

Does that make senses?

I'm going to read you a poem. I wrote this in 1990. I'm a poet. And I'm speaking for myself. Even though I am the poet laureate in Santa Fe, I'm speaking for myself.

Answer me this.
Peace isn't a placebo.
Haven't we swallowed the threat of war?
And don't men want to make peace with women
And aren't women full of peace
As they fill with babies
And aren't babies made of molecules of peace
And aren't babies fools who babble on in peace

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Through guns and bombs? And wouldn't you
try
And wage peace and didn't your grandmother?
And wasn't she Hungarian, and knew too much
of war?
Isn't adobe made of mud and straw
And isn't my heart? And isn't a fire made
of wood
And light and don't walks eventually turn
Into flight and isn't it grand the way
peace trickles
From my hands? And isn't recycling a word
For pop cans and yesterday's news and not
For the element Plutonium. And isn't
Plutonium
Named after Pluto, god of the Underworld:
That place you turn when there is no way
up?
And couldn't Los Alamos finally turn
The way cottonwoods do in fall
To the using of sun for heat and ways
To make fuel out of music? And do you want
Your children downwind of peace or downwind
Of preparations for war? And isn't peace a
reason

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For churches and don't you want to be
downwind
Of God and aren't you already?
I want to go on record saying Place me
Downwind of peace. How does it feel
Downwind? No difference in the scent
Of lilacs, no change in the wind after
rain.
Don't you really want to plant gardens
And isn't the economy less fragile
Than the earth and why is it money always?
I implore the crystalline minds of science
To turn to the joy of salvation,
A New World Series, Super Bowl of Peace.

(Applause.)

MR. MacALLISTER: Our next speaker will be Melissa Larson, followed by Jay Coghlan.

MS. MELISSA LARSON: What you can see, clean air, clean water, life. No CMRR. Everybody here has been speaking really beautifully and I'm happy to be here, too, even though originally we weren't supposed to be here because this is a sham hearing, and actually, they're already planning to build this building that's 125 feet deep with tons of concrete and steel and everything, and we don't

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612-1 NNSA notes the commentor's opposition to the CMRR-NF project. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

Plutonium metal and oxide used at the existing CMR Building, and that would be used in the proposed CMRR-NF, cannot produce a nuclear reaction by themselves and do not produce large amounts of decay heat that are associated with nuclear reactors that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of the CRD for more information.

really want the building, that everybody's noticed, and we definitely are ready to be done with plutonium, too. Plutonium is an obsolete enterprise now. We've had our play with it, and everybody has seen that there is more pollution on the earth than anybody knows what to do with, and it's real expensive to clean that up. And so if anything, that money that you're planning to invest into this building ought to be used to clean up the mess you have already made up there. And we do want to have our clean water, and there's no way that you can put the amount of concrete -- where do you get the water to build that thing? And then what do you use to cool off that plutonium? It's just an obsolete thing at this point, you know what?

612-1 cont'd

I have been reading about -- there's an element called thorium that like India and China are now using to generate electricity and stuff. It's also slightly radioactive, but they compare it to like what unleaded fuel is to leaded fuel. It's a little bit safer. It's not the best solution, but at least it's something to move on to, and then it doesn't create nuclear weapons, and there's no byproducts that you use to blow people up and stuff.

So if people really need to work on power,

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I think, you know, for one thing, solar energy is great, you know. One thing I heard is that that Cassini mission that went out to outer space, it was carrying 72 pounds of plutonium on board, and somebody said that if that thing didn't make it and came down, it was going to kill like 30 to 40 million people, and that's only 73 pounds of plutonium. So you can imagine what 6 metric tons of it is going to do.

And there's a lot of plutonium on the earth right now. Actually, it's a real problem for the scientists, I understand, because they have created so much of it, and with the nuclear power and stuff that they're trying to promote also, even though Fukushima has proved that, everybody with any brains at all wants to look at the future, they're already thinking we've got to find some other power source, you know.

So I think solar energy is great. In fact, I heard like those missions to outer space, they're always saying oh, plutonium, that's like a space battery and stuff. But actually, solar energy works really good for space missions and everything, too.

So you know, the scientists know that there's lots of other ways to do it. It's not that

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it's so hard to come up with these new ideas. It's just that the old ideas are kind of -- they're still making the money. Somehow, like this, I guess, I don't know who's got invested in it that much, because obviously none of the people -- the only ones who really want to see this thing go up are the ones who have got jobs there, and are going to be building it, or something. But otherwise, all the people in New Mexico want their clean land, their clean water, their clean air. That's the only thing that's going to keep the life here going.

And we love this land, you know, and we love all the living things here, so we don't want to see it all go down into some plutonium thing and everyone get evacuated and have to move far away and leave the land to waste, you know.

So we've already seen that happening in Fukushima today, and I noticed in the SEIS about this plan that they only had like one small paragraph about the Fukushima thing, and it didn't really go into any detail at all, and I suppose you need to have a nice security clearance in order to get the information that they're not telling us, but I think that really just common sense would have anybody know, and everybody here that's talking against it

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612-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. As discussed in the response to Comment 612-1, the plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems.

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seems to understand that it's just something that we don't need and that there's a better use for the money and there's better uses for the scientists' minds.

And you know, plutonium was a cute little experiment back in 1940, and maybe a lot of guys got real turned on about it or something, but I think that it's an old thing now, kind of like those, you know, videocassette things that they used to have, and stuff like that. Once it becomes an obsolete thing, you just have to go out and do something else. You can't just keep using the same old thing. That's proved that it's not working, and that it's only going to wreck the earth.

So anyway, basically, these hearings are a sham because they have already decided that the building is what they're going to do. And they're just trying to say they're considering these alternatives, but there's no alternative they're considering.

And so I came here, just for the record, to let you know that I don't think it's a good alternative, and, you know, go through the process with you, but make the motions, you know. But obviously, there's no way to stop it. You know,

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there's no way to stop it, no, there's no way to stop it. Can't stop it even if you try. (Applause.)

MR. MacALLISTER: Our next speaker will be Jay Coghlan, followed by Julie Sutherland.

MR. JAY COGHLAN: I'm Jay Coghlan, with the Nuclear Watch New Mexico. I'm going to respectfully disagree with the previous speaker. We can still stop this thing, you know, and we're going to work hard towards that end.

I'm a self-confessed wonk at times. I'm going to speak wonk-speak in an attempt to, I don't know, impede this process. But these hearings, of course, are happening pursuant to a federal law, specifically the National Environmental Policy Act. And I basically want to discuss what I see as two broad vulnerabilities to this Draft Supplemental EIS.

The first is that it makes no attempt and, in fact, rejects revisiting the purpose and need in what the mission should be for the nuclear facility. It rejects that kind of consideration out of hand, and basically just tries to confine the study essentially to seismic issues and the construction methods used to mitigate those concerns, et cetera, et cetera.

But I would like to suggest -- and the NNSA

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613-1 NNSA notes the commentor's concerns regarding the purpose and need for the CMRR-NF project. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, and Section 2.11, Alternatives Considered, of this CRD for more information.

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folks may want to think about this -- that you possibly make this process legally vulnerable by not going back and reexamining mission and need. And the SEIS explicitly states that nothing has changed since the 2003 EIS. And juxtaposed against that, I found it ironic that just a couple of days ago, NNSA released a fiscal year 2012 strategic plan and the first thing it says is that so much has changed since we last released a strategic plan in 2004.

613-1 cont'd

The first thing that this NNSA strategic plan points to is President Obama's April 2009 speech in Prague in which he enunciated a future world free of nuclear weapons to be a national security goal. And I bring that up, that that is a double-edged sword, but I will reemphasize the fact that, to me, it clearly contradicts the assertion that NNSA makes in the Supplemental EIS that nothing has changed.

Now, for me to cite Obama's Prague speech is, again, double-edged because out of one side of his mouth, Obama, you know, has his lofty goal of a future world free of nuclear weapons. And basically in his next paragraph, he goes, "In the interim, we of course are going to maintain a strong nuclear deterrence."

So it's two sides of a coin, and it's tough

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to deal with in that Obama, the administration, subsequently came out with a high-level policy document called the Nuclear Posture Review, and that review specifically endorsed construction of the CMRR project and the nuclear facility. But the one key thing that that review did not do -- and this gets to, I believe, the heart of the argument either for or against the nuclear facility -- that review did not raise the level of plutonium pit production.

The laboratory is very fond of saying that the nuclear facility will not be a facility for pit production, and that's true in a narrow sense, but it's misleading, if not downright disingenuous, to be saying, because what the nuclear facility really is, it is the keystone to an expanded plutonium production complex, that Technical Area 55. And this huge new facility will be linked via underground tunnel to the existing pit production facility.

So to my mind, this is just a semantic argument that I think the laboratory should drop. Just because you have two different facilities under two different roofs, you're making the claim that production doesn't actually take place in this new $6 billion facility at issue here.

That's deceptive. You know, quit saying

613-2

613-2 As stated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA needs to act to provide the physical means for accommodating the continuation of mission-critical analytical chemistry and materials characterization capabilities at LANL beyond the present time in a safe, secure, and environmentally sound manner. Concurrently, NNSA proposes to take advantage of the opportunity to consolidate analytical chemistry and materials characterization activities for the purpose of increasing operational efficiency and enhancing security. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As described in Chapter 1, Section 1.2, of the *CMRR-NF SEIS*, NNSA's ability to perform these capabilities has been curtailed because of safety restrictions at the existing CMR Building; some types of materials characterization work have been suspended because of these limitations. Refer to Section 2.4, CMR Mission, of this CRD for more information.

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that. You are setting out again to create this expanded production complex for plutonium pits.

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Now, other things that have occurred since the Environmental Impact Statement for the CMRR, we had a prestigious panel of independent experts come out with a study that Nuke Watch initiated, by the way, but a study that concluded that plutonium pits have reliable lifetimes of basically a century. And again, this gets to, I believe, the heart of the need or, better put, the lack of need. Just because plutonium pits last on the order of a century, where is the need for new production at which the nuclear facility is going to play a key part?

And I can see I'm only going to get halfway through my comments, so I look forward to the next round, and I'll get to the lack of alternatives that's being considered in the site Environmental Impact Statement.

But in an attempt to close now, there is no real mission need for this nuclear facility. It is provocative to be building it. I've raised a family. I had to have a job. I'm very sympathetic to the notion that, you know, the population clearly needs jobs. Just try to imagine the jobs that we could create if we put that $6 billion into something else

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613-3 NNSA reviewed pit lifetime studies and has concluded that degradation of plutonium in a majority of nuclear weapons will not affect warhead reliability for a minimum of 85 years. NNSA plans to continue studying plutonium aging through surveillance and scientific evaluation. NNSA will annually reassess the status of plutonium in nuclear weapons as the weapons laboratories continue to evaluate new data and observations (NNSA 2006a). It should be noted that plutonium aging is only one of the variables affecting nuclear weapon system reliability; other variables can control overall life expectancy of nuclear weapon systems.

besides this expansive plutonium facility that is, hopefully, for a shrinking business of nuclear weapons production. (Applause.)

MR. MacALLISTER: Our next speaker is Julie Sutherland, and she will be followed by Marilyn Hoff.

MS. JULIE SUTHERLAND: Hello. I'm a farm worker, and I live off the grid in northern New Mexico. And I love it here. I will need my comment.

A new EIS is needed. As the old one of 2004 is obsolete and inapplicable. The scope of the project has changed dramatically and the price tag has increased from 600 million to 6 billion. We do not need more nuclear weapons. Instead, clean up of legacy waste has to happen, and a return to sanity.

Our children deserve a future free from the terrorist threat that Los Alamos National Lab proposes.

We want our health back. Think of life-affirming alternatives to this technological destruction. Wind and solar energy are the harbingers of the future and sustainable, to boot.

Don't pollute. Reduce, reject this SEIS, and rejoice with peace and love. (Applause.)

MR. MacALLISTER: Our next speaker is

613-3 cont'd

614-1

614-1 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. This *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements.

NNSA notes the commentor's statements about additional nuclear weapons and legacy waste. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for a discussion of the nuclear weapons mission. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

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Marilyn Hoff, and she will be followed Jeanne Green.

MS. MARILYN HOFF: Thank you for the opportunity to speak. I am Marilyn Hoff. I'm from the northern part of the state. As an aside, I want to say that the Mayor of Taos has offered a room. He is a leader of a band, so he will probably offer a sound system. There's really no reason why these hearings cannot be held in Taos.

615-1

This Supplemental Environmental Impact Statement or SEIS, for the proposed Chemical and Metallurgical Research Replacement Nuclear Facility, intended for the processing of plutonium, with which to make plutonium pits, with which to make nuclear bombs, amongst the pages and pages of inelegant prose have failed to tell the whole story.

This supplemental also fails to achieve the thoroughness of a complete EIS. The EIS pretends to supplement, address the building design that is no longer on the drawing board.

So, now, we find more costly and complicated still evolving designs, yet the final cursory plans from a mere supplemental.

This site is complied by a hardly neutral defense contractor. It is notable for what it does not contain.

615-2

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615-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

615-2 The *CMRR-NF SEIS* is an SEIS to specifically address changes in the design of the CMRR-NF based on additional seismic information and safety requirements. The design has matured since the 2003 *CMRR SEIS* and more information is available about construction and operations impacts. The description of the Modified CMRR-NF Alternative in Chapter 2, Section 2.6.2, of the *CMRR-NF SEIS* presents information about the two construction options, the Deep Excavation Option and the Shallow Excavation Option.

All proposed new DOE facilities are required to be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment. DOE Order 420.1B, "Facility Safety," requires that nuclear or nonnuclear facilities be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards, including earthquakes. The order stipulates the natural phenomena hazards mitigation requirements for DOE facilities. DOE Standard 1020-2002, *Natural Phenomena Hazards Design and Evaluation Criteria for Department of Energy Facilities* (DOE 2002a), implements DOE Order 420.1B and provides criteria for the design of new structures, systems, and components to ensure that DOE facilities can safely withstand the effects of natural phenomena hazards.

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First, the CMRR-NF is not emphasized. How could it be? Its design is incomplete. Billions have been added to its price tag. The costs of grappling with the building's projected location in earthquake country, and in grappling, too, with the dangerous potential for the plutonium to burst into flame.

Will the sky-high cost of making this building resistant to earthquake, inspire the designer to cut costs on fire suppressants? The SEIS does not say. What if an earthquake cracks the CMRR building wide open, and plutonium ignites as it often does, and the cost-cutting fire suppressant system fails and plutonium oxide billows forth into our surroundings? Nobody will learn what happens next from this SEIS.

So, the SEIS is not really about the CMRR-NF. The SEIS is about jumping through National Environmental Policy Act or NEPA hoops just high enough to give LANL's corporate contractors a windfall of money from Congress.

615-2 cont'd

Also, not in the SEIS are any meaningful opportunities to building this CMRR-NF. The No Action Alternative to the SEIS consists of building the CMRR-NF according to its original design, which

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As described in Chapter 2, Section 2.6 of the *CMRR-NF SEIS*, the CMRR-NF would be constructed in accordance with DOE requirements for nuclear facilities, protection, site seismic design, and security. The building design includes safety-class fire suppression equipment. Fire suppression water storage tanks would be located on the lowest building floor or level. The dedicated water source for fire protection within the building and backup generators would ensure fire protection in the case of a power outage. Regarding the commentor's statement about plutonium releases, the dangers of plutonium have been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives, including the impacts of potential accidents.

615-3 The *CMRR-NF SEIS* addresses changes in the design of the CMRR-NF based on requirements related to additional seismic information. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years.

The CMRR-NF SEIS contains three alternatives: Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967). See Section 2.11, Alternatives Considered, of this CRD for more information.

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did not take into account the recently upgraded danger of earthquakes. Thus the SEIS redefines, no action to mean totally stupid action.

The only other alternative involving Los Alamos, $6 billion CMRR-NF contained in the SEIS, is to continue with that plutonium in the old CMR, without refurbishing that building or cleaning up the polluted radioactive mess it has become. The SEIS has redefined this alternative to mean totally stupid, same old, same old.

With nothing but totally stupid alternatives to choose from, we're left with the blurry CMRR-NF, which the SEIS cannot bring into focus.

The SEIS does not contain the No Action Alternative that would truly result in no action. And hence no billions in appropriations.

The SEIS does not contain any of the discussion of the need for a CMRR-NF. Such a discussion will be required in a full-fledged Environmental Impact Statement, but the SEIS falls short of the studies, the considerations that an EIS would require. Thus, the SEIS can refuse to consider refurbishing the old CMR building, or building the new CMRR-NF in a different, safer, cheaper location,

615-3 cont'd

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on less shaky ground, or discontinuing the manufacture of plutonium pits/nuclear weapons, or changing the mission of LANL to something more productive.

The SEIS can dismiss such alternatives, and it's inconsistent with the CMRR-NF mission, while venturing no discussion of the pros and cons, or even the purpose of this alleged mission.

Ostensibly we're here to talk about and critique the SEIS, but what this SEIS is not, far outweighs what it is. What it is is a lacking job done with appearances to contend with the NEPA law that requires it. It does the least that could be done to satisfy this law. Its makers may well get away with stretching the NEPA law to give us a mere supplement to cover how the whole process is all about something that is incomplete.

This SEIS professes to assess a not yet fully realized building to be built at extraordinary costs for an extremely dangerous purpose, in an unsafe location, that will bring enormous financial windfalls to unnamed corporations. And the SEIS won't tell us who those beneficiaries are.

615-3 cont'd

The SEIS does not ask who needs any more nuclear weapons per year. The SEIS does not examine

615-4

615-4 NNSA acknowledges the commentor's statements about nuclear weapons and the nuclear arms reduction treaty. Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed in the proposed CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.9, Treaty Compliance, of this CRD for more information.

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how come the U.S. should increase its potential output of nuclear weapons, while at the same time signing on to nuclear arms reduction treaty. The SEIS ignores whether making more -- I have only one more paragraph, okay?

MR. MacALLISTER: I won't take the microphone, wrap it up, though.

MS. HOFF: I don't have much left. All right.

The SEIS ignores whether making more nuclear weapons could contribute to nuclear proliferation and to the desire of nonnuclear states and tariffs, to acquire the nuclear weapons for themselves.

The SEIS does not say how making more nuclear weapons of mass destruction can prevent war, while our so-called nuclear deterrents, and see our country engaged in a war without end.

The SEIS disregards whatever possible purpose this useless increase and useless weapons that must never be used, will serve.

SPEAKER FROM THE FLOOR: You can have my time.

OTHER SPEAKERS FROM THE FLOOR: (Could not be recorded, because everybody was speaking at the

615-4 cont'd

Response side of this page intentionally left blank.

same time.)

MS. HOFF: Okay. One more paragraph. Okay. The SEIS passes over the possible deadly plutonium and the use of a bomb factory, like Rocky Flats before it, might bestow on those living downwind or downstream.

615-5

The SEIS avoids the issue of environmental racism, while the Native Americans and Hispanic Americans receive the brunt of LANL's eliminations.

The SEIS does not consider whether the billions estimated to be spent on the CMRR-NF might more productively be spent on green jobs, renewable energy, crumbling infrastructure, environmental needs, and environmental cleanup, especially cleanup on the blight on the land of enchantment known as Los Alamos National Laboratory. (Applause.)

One more. I have one more sentence, one more sentence.

MR. MacALLISTER: You're going to have to abide by the time period. There are lots of people waiting.

SPEAKER FROM THE FLOOR: Let her give the last sentence.

OTHER SPEAKERS FROM THE FLOOR: (Could not be reported, as everybody was speaking at the same

615-5 Chapter 4, Sections 4.2.11, 4.3.11, and 4.4.11, describes the environmental justice analyses for the three alternatives and concludes that there would not be any disproportionately high and adverse impacts on minority or low-income populations under any of the alternatives. Funding decisions regarding major Federal programs (for example, defense, education, healthcare and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

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time.)

MS. HOFF: (First part inaudible because people were talking from the audience at the same time.) A complete EIS, the so-called supplement is not the appropriate thing, the appropriate thing that it might be good for is toilet paper. (Shouting and applause.)

MR. MacALLISTER: There are a number of people waiting. Please abide by the time frame, because I don't want to have to take the mike from people. If there's a possibility and we have time left, and we have so far in the other meetings, we will have a second round. But I am going to be cutting people off at their time, because it's part of mutual respect for everybody in the room. Thank you.

The next speaker will be Jeanne Green followed by Margarita Denevan.

It's Jeanne Green. It looks like Jeanne.

MR. MacALLISTER: Thank you.

MS. JEANNE GREEN: First of all, we want a hearing in Taos. Our mayor has requested it, and thus far has been refused a real hearing. We can have a performance, but not a real hearing. And I have these 62 signatures here I want to submit for

616-1

616-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

the record in support of our mayor's request.

That wasn't part of my speech. And I'm going to have to skip through.

But LANL's SEIS does not meet NEPA requirements, because it does not offer a true No Action Alternative. The supposed No Action Alternative is to construct the planned 2004 CMRR-NF, which does not meet current seismic standards, and quote, "The No Action Alternative does not meet NNSA's purpose and need, and thus would not be implemented," unquote. Page S-9. If it has already been determined that this option is not viable, then it's not a No Action Alternative. To not build the currently planned modified CMRR-NF would be a viable option to consider.

Option 3, continued use of the CMR building without extensive upgrades is not an alternative either. Quote, "A portion of the CMR building is located over a fault that could severely damage or destroy the building in the event of an earthquake," unquote.

This is not a true alternative, either, and extensive upgrades to the CMR was an alternative considered and dismissed because, quote, "The cost for geotechnical investigation, structural and

616-1 cont'd

616-2

616-2 The *CMRR-NF SEIS* addresses three alternatives. The No Action Alternative included in the *CMRR-NF SEIS* is to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD. Based on new information learned since 2004, however, the 2004 CMRR-NF would not meet the standards for a PC-3 structure as required to safely conduct the full suite of NNSA analytical chemistry and materials chemistry mission work. In addition, as described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, NNSA considers the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated, and the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This latter "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. These include possible alternatives such as extensive upgrades to the existing CMR Building, distributing the functions assigned to the CMRR-NF among different LANL facilities, or considering other possible locations outside of LANL for the activities that would be accomplished in the CMRR-NF. Upgrading existing facilities at LANL to accomplish the CMR mission was considered in the original *CMRR EIS* and the current *CMRR-NF SEIS* (see Chapter 2, Section 2.7). The existing CMR Building operates at a reduced level due to seismic and security concerns associated with this 60-year-old building. The renovations needed to upgrade the existing CMR Building would be extensive. This alternative was considered in the *CMRR-NF SEIS*, but was determined to not be a reasonable alternative for a number of technical and programmatic reasons as discussed in the section referenced above. Section 2.7 of the SEIS has been expanded to include additional information on why it is not technically feasible to upgrade the Existing CMR Building. Also see Section 2.11, Alternatives Considered, of this CRD for additional information.

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security upgrades, et cetera, would be substantial, although not likely to approach those associated with the modified CMRR-NF alternative," unquote, page 2-27.

So the upgrade of the CMR, which is currently being used, and currently could be destroyed in an earthquake was considered and dismissed because it would not be as expensive as building a new CMRR-NF. Hmmm.

By the way, the upgrade option was included in the scoping Notice of Intent, but is not in this supplement.

616-2 cont'd

Furthermore, no cost analysis is included in this document, which is supplementing the EIS 2004 figures.

616-3

So, I go on here about -- so, really, we only have one option being considered, and that is to build the, to be determined, but somewhere around $6 billion building for expansion of plutonium pit production, i.e., analytical chemistry and materials characterization, AC and MC, for nuclear bomb triggers. Oh, no, the SEIS says, quote, "Pit production does not take place at the CMR and would not take place at the CMRR facility," unquote.

This statement is disingenuous, if not an

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616-3 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, and is not a required part of an EIS or SEIS. However, cost will be one aspect that NNSA takes into consideration when making its decision.

616-4 The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.4, CMR Mission, of this CRD for more information.

outright lie. Expanded special nuclear material, AC and MC, will directly support the expanded pit production capabilities of up to 80 pits a year, as stated in your 2008 document. Besides, why do you need six metric tons of plutonium on-site if you are not manufacturing nuclear bomb triggers of one kind or another?

616-4 cont'd

So, I'm going to have to skip some of this, but I'll go down to this. This is not how the NEPA process is supposed to work. Besides the lack of any alternatives to the new CMRR-NF there are serious lapses of logic and consideration of fact in this document.

We need a new and comprehensive Environmental Impact Statement to address the many flaws and omissions in this SEIS produced primarily by SAIC, Science Applications International Corporation. SAIC is a Fortune 500 technology company worth $8 billion that partners with Boeing on defense projects, and sells products to the Department of Defense, the Army and Navy, and the Department of Homeland Security. There's an obvious conflict of interest here.

616-5

SAIC has produced a document that absolutely excludes the very highly possible offsite

616-6

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616-5 Before DOE awards a contract to prepare an EIS, or in this case an SEIS, it reviews the contractor's proposal and makes a determination that there is no conflict of interest. The simple fact that SAIC does work for agencies or companies involved in defense work does not constitute a conflict of interest.

616-6 Chapter 4, Section 4.2.10, presents the accident analysis for the 2004 CMRR-NF. Accidents involving this facility would be expected to result in very large, unmitigated releases of radioactive materials.

NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

NNSA has prepared a classified appendix to the *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. Chapter 4, Section 4.2.10.3, presents information about the classified appendix.

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consequence of possible accidents like Fukushima, terrorists -- that's classified -- earthquakes. The area sits on five fault zones. Spills, without immediate mitigation, and contamination of our air, land and water.

To say that the chances of a facility accident for the preferred alternative is one chance in 11 million per year, page S-31, is farcical. I would like to see your statistical models for an accident at Fukushima, or how about 9/11? One chance in how many million? I could find no real mention of terrorism in this document.

616-6 cont'd

The statistical computer modeling you used has no relationship to reality. Quote, "Operation of the modified CMRR-NF and RLUOB, would have no impact on surface water or groundwater quality," unquote. We are supposed to believe that when there's already contamination with radionuclides of our surface water all the way down to Elephant Butte Lake.

616-7

Here's another. Under normal operations, quote, "The average annual -- I'm almost to the last paragraph here, okay?

SPEAKER FROM THE FLOOR: You can have my time.

MS. GREEN: Under normal operations, quote,

616-8

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616-7 There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, including reports of contamination in Cochiti Lake and the Rio Grande. NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF.

616-8 The *CMRR-NF SEIS* addresses public health and safety of the local communities, including impacts on water supply. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, and Appendix C of the SEIS.

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"The average annual individual risk of developing a latent cancer fatality is one chance in 500 million," unquote, page S-30. We don't have 500 million people in New Mexico, but we have more than one cancer fatality from radiological contamination by the Lab in our air, water, soil, and food.

616-8 cont'd

To conclude, the SEIS -- I'm wrapping up -- is totally insufficient and illegal, we need a new EIS, and in it consider this alternative, do not build the CMR-NF. We do not need more nuclear bombs just to line the pockets of Bechtel. Decontaminate and decommission the current dangerous CMR, sitting on an active fault system.

616-9

SPEAKER FROM THE FLOOR: Bring in the Mexican guy.

MS. GREEN: Temporarily consolidate current missions at the Rad Lab and PF-4, until it all can be decommissioned. And reallocate the 65 percent of your budget that goes for unneeded nuclear weapons, instead to nonproliferation in accordance with NNSA's mission. Clean up the tons and tons of radioactive waste that is migrating to our life sources of direct -- our drinking water, air to breathe, and soil to grow food, in accordance with the consent order.

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616-9 NNSA acknowledges the commentor's support for a new EIS. Based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. Please refer to Section 2.2, NEPA Process, of this CRD for more information.

As noted in the response to comment 616-2, the *CMRR-NF SEIS* addresses three alternatives: (1) a No Action Alternative, to construct and operate a new CMRR-NF at TA-55, adjacent to RLUOB, as analyzed in the 2003 *CMRR EIS* and selected in the associated 2004 ROD and the 2008 *Complex Transformation SPEIS* ROD; (2) the Modified CMRR-NF Alternative in which a Modified CMRR-NF would be constructed and operated; and (3) the Continued Use of the CMR Building Alternative in which CMRR-NF would not be constructed and the existing CMR Building in TA-3 would continue to be used for SNM operations until it was no longer considered safe to do so. This third, "no build" alternative, however, would not satisfy NNSA's stated purpose and need to carry out analytical chemistry and materials characterization operations at a level satisfying the entire range of DOE and NNSA mission support functions. Furthermore, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* addresses alternatives that were considered but dismissed from further analysis in the *CMRR-NF SEIS*. The CMRR-NF SEIS does addresses the possible impacts from decontaminating and decommissioning the existing CMR Building in Chapter 4, Section 4.5.

616-10 In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

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MR. MacALLISTER: Please, just wrap up, okay?

MS. GREEN: These are our tax dollars, not Bechtel's, and their cohorts, SAIC, and there is no justification for building more nuclear bombs, including the profit motive. (Applause.)

MR. MacALLISTER: If the pattern of running well over the time continues, I will have to start taking the mike, because we still have a large number of comments left. If we run out of time, these people are denied their right to comment.

SPEAKER FROM THE FLOOR: Who decides how long the meeting goes on? Why do you get to make these rules up?

MR. MacALLISTER: Because the rules are the rules --

SPEAKER FROM THE FLOOR: Oh, no, that's (expletive deleted).

MR. MacALLISTER: Sir, I will have you removed from the meeting if you make another outburst like that. Your language is inappropriate, your decorum is inappropriate. One more outburst like that, you will be removed. I have security here ready to do that. I'm sorry. I won't tolerate that.

(Noise made by several audience members.)

Response side of this page intentionally left blank.

MR. MacALLISTER: The next speaker is Margarita Denevan, and she is followed by J.R. Trujillo.

SPEAKER FROM THE FLOOR: It's the only chance we have to talk. It's horrible.

OTHER SPEAKERS FROM THE FLOOR: Yeah, we all need to speak.

OTHER SPEAKERS FROM THE FLOOR: Take all the time you want, guys.

MS. DENEVAN: Well, so many of the people who have preceded me have said a lot of the things that I think and feel.

But what I wanted to say is that when we talk about CMRR-NF, what we're really talking about is national security, the budget, jobs, and then I realized, welfare.

National security -- now, I'd like to know, how secure can we feel when we know they're building this building over a seismic area that recent reports say could have the potential of what happened in Japan? So how secure are we when we know they are building this? And then how secure are we when we know that in the building of the facility itself, there's all of this green gas, greenhouse gas emissions. So how secure can we feel when we know we

617-1

617-1 NNSA acknowledges the commentor's concern that an accident similar to the one that occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

Construction and operation of the CMRR-NF is expected to add very little to LANL's overall greenhouse gas emissions (refer to Chapter 4, Sections 4.2.4.2 and 4.3.4.2).

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are breathing this stuff that's poisoning us?

And think about all of the water that's necessary. Somebody brought that up. We all know, we are -- we need water. We are at a water shortage. How much water is used for the production of these pits that they say they are not building, yet I've heard the term over and over that they want to build 80 a year. **617-2**

And we've heard the shelf life of every pit is a hundred years. And I recently read that there's as many as 14,000 of these pits that are at our disposal right now. So why do we need more?

Somebody asked that the -- whatever the strategic plan, never takes into consideration what is the purpose of this building? And what is the need? We don't need it. When this is said, it's obsolete. Nuclear weapons were obsolete the minute they were produced. We don't need them. 9/11 happened, the whole world knows -- knew at that time, that the United States had the largest nuclear weapons, supplies stockpiled. It didn't stop 9/11. So we need this for national security, oh, dear, dear me. I don't believe it. **617-3**

Then what about the nuclear waste? We don't know what to do with the nuclear waste we have, and yet our government is proposing to take **617-4**

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617-2 NNSA notes commentor's concern with water usage in construction and operation of the CMRR-NF. Water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not occur in the CMR Building and would not occur in the CMRR-NF. See Section 2.4, CMR Mission, of this CRD for more information.

617-3 Although a number of commentors expressed the opinion that nuclear weapons are obsolete, the President and Congress have assigned NNSA the mission of ensuring the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

617-4 Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12, of the *CMRR-NF SEIS* describe waste management impacts of all of the alternatives. As addressed further in Section 2.5, Cleanup and Waste Management, of this CRD, it is expected that sufficient disposal capacity would exist for all radioactive waste projected from any of the alternatives addressed in the *CMRR-NF SEIS*. Low-level radioactive waste disposal capacity currently exists at LANL at Area G within TA-54. When the disposal units at the existing Area G location are closed, plans are to transfer low-level radioactive waste disposal operations to the adjacent Zone 4 within

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$6 billion of our tax money to produce more nuclear waste. And it makes no sense to me at all.

And, then, just think, national security. How secure are we when we know that they are proposing to bring even more nuclear waste to New Mexico? Because we are empty, I guess.

617-4 cont'd

Okay. There's $6 billion, tax dollars, that are going to be spent to build something we don't need, and we can't possibly use. Just think, a nuclear war where the countries are firing these things at each other, who's going to survive it? We don't need these pits. Oh, dear me.

Then, the budget. All of that money went at a time when -- just think, how many times have we heard that a democracy depends on an educated citizenry, and what happened today in New Mexico? Well, no, I come from Taos. Actually, I live north of Taos. In our school district, they're laying off 23 teachers. That means there are going to be more kids per class, and how many times have we heard the smaller the class, the greater the learning?

And if a democracy depends on educated citizenry, does that -- what's that mean for our democracy? So we need that money to save our democracy.

617-5

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Area G. Offsite disposal capacity also exists at both commercial and DOE locations.

Transuranic waste disposal capacity currently exists at WIPP. If waste disposal capacity at WIPP is no longer available over the operating life of CMRR-NF, then any transuranic waste generated at CMRR-NF or elsewhere at LANL would be safely stored until additional disposal capacity becomes available. Please refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

617-5 Funding decisions regarding major Federal programs (for example, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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And then the people who came up and said, from the building industries, okay, what I would like to know, is if we can build this building to produce plutonium pits, why can't we build that building to produce renewable energy? We have scientists and engineers who are working there. Why can't they take their knowledge and use it to produce renewable energy? We have asked people whose jobs have been outsourced. I'm sorry. They have been -- their jobs have been outsourced. We've asked them to retrain. I would like to say, why can't scientists and engineers be retrained to produce renewable energy?

617-5 cont'd

Thank you so much.

MR. MacALLISTER: Our next speaker is J.R. Trujillo, and he will be followed by Jean Nichols.

MR. J.R. TRUJILLO: Hi. My name is J.R. Trujillo, and I looked in the room and I wished I knew more of you. I am happy, though, to see that there are so many people here that care about our community. But, you know, Española has a lot of difficulties, and one of the difficulties that we face is a lack of opportunity, a lack of economic growth, and as a family man, I have a wife and children, and as a businessman, as a past City Councilor here in the City of Española, we really

618-1

618-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

hope that this project moves forward. We hope it provides an economic engine that can help our children obtain jobs and education. We hope it will help take some of these people off of their path to drug abuse. We hope that we will see a brighter future for this part of the country, because I will tell you, there's very little for our people to do, very little for our people to have. And it's becoming dire.

Our mayor, Mayor Lucero, has asked me to come here tonight to voice that we were in favor of this project. We hope that these hurdles can be cleared. We hope that the project starts quickly.

I'm also one of the board members for the Regional Development Corporation. We are in favor of this project. We hope it moves ahead quickly.

And, again, as the Chairman of the Small Business Advisory Committee for the City of Española, the small businesses hope that this project moves ahead swiftly.

We have, of course, asked that the contractors up on the hill, as in the past, utilize our small businesses, utilize our workforce, to help with this great effort.

And if we can give any assistance to you,

618-1 cont'd

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please call on us to do so. Thank you.

MR. MacALLISTER: Our next speaker is Jean Nichols, followed by Joni Arends.

MS. JEAN NICHOLS: I really feel for the people who are concerned with getting jobs and everything, but like other people said, there's many other ways to have jobs and, you know, there could be a lot of other ones. We have to really talk to -- well, I don't know, who do we talk to? We've been talking for 35 years.

You know, I didn't prepare anything tonight because I wasn't even going to come. It's such a sham. We need a new EIS on this. This is an illegal and immoral process. You know, whatever -- I thank so much all the people who came with all of their prepared statements.

619-1

And I want to remind you that some people only spoke for a minute, or something, so I bet if you averaged it out, the people that went over a little, it was okay.

I live in Peñasco, and we're 40 miles downwind of the Lab, and during the Cerro Grande Fire, we got the smoke predominantly most of the time, and we're the agricultural kind of cradle of the area up there.

619-1 NNSA notes the commentor's statements regarding the need for a new EIS. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action.

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In 2006, the dust in my house was determined to be too high with strontium-90, and the plum trees on La Yegua were too high with americium, and the people who tested it, told the people living there, do not feed these to your grandchildren. I mean, this is real. You know, I have test results from this.

This is, you know, one thing to get the jobs, but, you know, we say, okay, let's have a bright future. It could be a bright future that goes up in a flash.

You know, my next door neighbor, he's got black lung disease from, you know, his job that he had, you know, working in the mines. It's insanity what we are doing here. And I know that it's the political will, and so it's not the people here, it's not people at the Lab who can do it. It's Congress.

As I pulled into the parking lot today, I was listening to the news, and they were saying, you know, Congress's biggest problem right now is the budget deficit, and yet we're going to spend $6 billion to make nuclear -- more nuclear weapons.

You know, it makes you want to cry. There's a nuclear numbness going on. That's why there isn't, you know, more people here speaking out,

619-2

619-2 Current air sampling programs at LANL include ambient nonradiological air monitoring programs, a radiological ambient air sampling network, and stack sampling for radionuclides. All LANL operations, regardless of when they began, currently comply with state (New Mexico Air Quality Control Act) and Federal (Clean Air Act, Toxic Substances Control Act, DOE, and EPA) regulations and have valid permits. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF.

The question about contaminated fruit was addressed in an issue response in the CRD for the 2008 *LANL SWEIS*. In May 2006, the New Mexico Environment Department reported detecting americium in a single fruit sample collected in Dixon, New Mexico, one of the sites where LANL collects regional samples. LANL scientists evaluated New Mexico Environment Department data and concluded that this was likely a "false positive." Americium is a heavy radioactive element that is found as a contaminant in the plutonium used for research and pit fabrication and is one of the radionuclides for which LANL routinely monitors. Low concentrations of americium are found throughout the environment, mainly as a result of past releases to the atmosphere from aboveground nuclear weapons tests.

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because people just do not want to think about it. We are expected every day to accept unacceptable information, and unacceptable things.

You know, the fact that the EIS in 2003 or 2004, it's totally changed its scope. That's why we needed a brand-new EIS. And what with the whole global weirding that is going on, and just the tornadoes -- I mean, there's going to be more of that stuff happening all the time. There should be jobs for everybody just going to help with those disasters.

619-1 cont'd

You know, it's time for the world community to get together and take care of the world. I know you don't care at Los Alamos about the people and our health, but, you know, there's so many people with brain tumors, cancers. I was diagnosed with the cancer last year. You know, could it be that I have strontium-90 in my dust? I mean, I don't know. But it's just unreal. The lack of heart and the lack of common sense and, I mean, it's just insane.

Okay. I will give my last few minutes to the next person who's prepared.

MR. MacALLISTER: Our next speaker is Joni Arends, followed by Bonnie Bonneau.

SPEAKER FROM THE FLOOR: I love you, Joni.

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OTHER SPEAKER FROM THE FLOOR: I love you, too.

MS. JONI ARENDS: Good evening. My name is Joni Arends. I'm with Concerned Citizens for Nuclear Safety.

So Bruce, I said a couple of times in the back of the room that I would yield some of my time to other speakers, and I want to find out how much time I have right now.

MR. MacALLISTER: You have the full five minutes, unless you want to yield to somebody else right now.

MS. JONI ARENDS: The previous speaker yielded the remainder of her time to the next speaker. So, seven minutes?

MR. MacALLISTER: You have five minutes per speaker.

MS. JONI ARENDS: So I want to thank Bruce and John for making changes to the format this evening, so that it's actually more civil than it was in Albuquerque and more civil than it was last night in Los Alamos. So thank you.

And I want to thank the folks who traveled long distances to be here, because the National Nuclear Security Administration could not figure out

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whether they could have a hearing in Taos. We know the request was made almost a month ago. So, I want to appreciate everybody who spent energy and gasoline and money to get here.

So for the gentleman who spoke earlier who didn't feel any effects from LANL, I just want to reiterate some of the points that have been made over the times that LANL has released contamination into the air, into the soil, and into the water.

And one example of the contamination into the air was from the early operations, where emissions from one facility at the Lab, in the late '40s, early '50s was more than all of the releases of plutonium from Savannah River, from the Hanford Production Facility, and from Rocky Flats, another production facility.

That contamination is documented in the Los Alamos Historical Document Retrieval and Assessment Project.

With respect to contamination in the soil, there's over 21 million cubic feet of waste buried contamination is migrating to groundwater, to surface water. Some evidence of buried waste is that in one site in particular, there were PCBs at 38,000 times the human health standards. That site has now been

620-1

620-2

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620-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Chapter 2, Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

620-2 The commentor is referring to a dose reconstruction project initiated by the Centers for Disease Control and Prevention to estimate the possible exposures of populations from releases of radioactive and chemical materials from LANL during its historical operations. A final report addressing the first phase of the project – the Los Alamos Historical Document Retrieval and Assessment project – has been published (ChemRisk et al. 2010). This report addresses past operations at LANL and is not representative of current processes.

Current air sampling programs at LANL include ambient nonradiological air monitoring programs, a radiological ambient air sampling network, and stack sampling for radionuclides. All LANL operations, regardless of when they began, currently comply with state (New Mexico Air Quality Control Act) and Federal (Clean Air Act, Toxic Substances Control Act, DOE, and EPA) regulations and have valid permits. NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF.

Regarding the comment about contaminant migration, there are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is cleaned up, but they wanted to ship that waste through Antonito in polyethylene sacks with zippers.

And with respect to contamination in the water, contamination has been found in the Buckman Wells, contamination has been found in the Rio Grande, contamination has been found in the canyons that flow from the lab to the river.

620-1 cont'd

And speaking of water, the EIS says in table 4-52 that the modified nuclear facility alternative will use 16 million gallons of water per year. That's about 49 acre-feet. That's a lot of irrigation water. That's a lot of water that could be used for -- as David was talking about -- watershed restoration, adjusting to climate change, 49 acre-feet per year for nuclear weapons manufacturing, nuclear weapons plutonium complex at the laboratory.

It's also important to know that Los Alamos County has 1,200 acre-feet of San Juan/Chama water that they haven't diverted, and they have presented a proposal to the Buckman Diversion Board to divert that water at the Buckman and pipe it across the river and lift it 1,000 feet to the White Rock water treatment facility.

So I just want to put everybody on notice

620-3

conducted at LANL (described in the *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, for more information on cleanup of past contamination.

All shipments of radioactive and chemical waste are conducted in accordance with Federal and state requirements.

620-3 As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

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that like right now, the river is running about 350 cubic feet per second. And that's pretty low right now in this drought condition. And Eldorado, south of Santa Fe, is now in class 1 or area 1 water restrictions. And Las Vegas is, too. But the flow in the river right now doesn't include the fact that the County has 1,200 acre-feet a year to be able to divert.

Now, the County and the lab have a relationship, so it's unclear how much of that 1,200 acre-feet per year would be allocated to laboratory operations. So I just want to put that out there, that this is another piece to this whole plutonium complex.

620-2 cont'd

I want to talk more about the seismic issues, so I'm going to stop right now and hopefully there will be another opportunity to speak. And we have some more of these signs in the back if anybody wants any of them. (Applause.)

MR. MacALLISTER: Our next speaker is Bonnie Bonneau, followed by Pat Vigil.

MS. BONNIE BONNEAU: I'm Bonnie Bonneau. I'm from the Taos area. And I have been to a lot of these public hearings over the years, and you know, you call them public hearings, but it really implies

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621-1 NNSA notes the commentor's concerns. NNSA considers every comment received by U.S. mail, email, toll-free telephone or fax line, or at the public hearings. NNSA has prepared a classified appendix to the *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Refer to Chapter 4, Section 4.2.10.3, Intentional Destructive Acts, for a summary of the classified appendix.

Please refer to Section 2.2, NEPA Process, of this CRD for more information.

that somebody's listening and that we're being heard, and so often we feel like we're just talking to the wind and nobody really gives a poop what we're saying anyway. And I really hope you guys will like open up your minds and listen with your hearts and really pay attention, because it's very important. It's not just, you know, dollars and cents. It's life and death.

The lab is endangering New Mexicans in so many ways. They create health hazards and poison our air and our earth, and the more and the bigger and the more complex Los Alamos becomes, the huger a terrorist target it becomes with the biological labs up there. And TA-55 alone -- I mean, the whole process has been flawed from the beginning. To begin, you know, your environmental studies after you have dug a giant $200 million hole is really a very defective way to do an Environmental Impact Study.

It seems like you never really considered any alternatives. I mean, it's absolutely insane to put bomb factories on top of a humongous volcano. It's the biggest volcano on the continent and who wants to build bombs on a volcano? This is a totally insane alternative, that you didn't find any place in the state, you know, that doesn't have a giant rift

621-1 cont'd

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621-1 cont'd

or a fault going the whole way across the state and volcanic activity, and venting steam through hot springs all around it, you know. I just can't imagine people up there have any brains at all sometimes.

All the alternatives are insane and there hasn't -- not one reasonable one was suggested for, you know, if you really feel like you have to behave like this and build bombs and plan to murder people as your hobby or your way of making a living. But maybe you should have considered like that salt flats or someplace in Idaho or someplace on solid ground.

621-2

TA-55 is extremely old and it really needs to be decommissioned and decontaminated itself. I bet you anything it's a Superfund site. I bet if you had the Geological Service or the Army Corps of Engineers go through and do an honest analysis of TA-55, you'd find it was just ready for decontamination as, you know, a CMR building, and you know, you should not be adding on to it. Those tunnels they mentioned, you know, nonspecific -- TA-55 has got to be in a real Environmental Impact Statement and not, you know, just tagged onto some EIS supplement at the TA-55. The Environmental Impact Statement will be the only first step if you

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621-2 NNSA acknowledges the commentor's support for a new EIS. Based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. Please refer to Section 2.2, NEPA Process, of this CRD for more information.

The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years.

621-2 cont'd

really seriously wanted to pursue building bombs at Los Alamos, which is not a very good idea for anybody, either to build bombs or -- that's about as dumb a place as you can build them, and making a mockery of the NEPA process. And you should like shut down the project right now and sort it out in a more intelligent way, please. (Applause.)

MR. MacALLISTER: Our next speaker is Pat Vigil, followed by Beata Tsosie. Pat Vigil?

I think he left.

All right, I'll come back to him. Maybe he stepped out. Beata Tsosie?

MS. BEATA TSOSIE: (In Navajo.) My name is Beata Tsosie Peña.

622-1

I'm against the CMRR-NF, an acronym for insanity. It is not wanted or needed here. It is not needed in a world struggling for peace, for healing, reprieve from violence.

I'm in solidarity with my respected sovereign government. The Tribal Council of Santa Clara Pueblo, Kha'p'oo Owinge, passed Resolution Number 08-16 opposing the expansion of the current CMR facility and any activity that would increase pit production and make the facility permanent. (Applause.)

It is of vital importance for

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622-1 NNSA notes the commentor's opposition to the CMRR-NF, pit production, and the existence of nuclear weapons. The CMR Building provides, and the proposed CMRR-NF would provide, capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. As indicated in Chapter 2, Section 2.4, of the *CMRR-NF SEIS*, pit production does not take place in the CMR Building and would not take place in the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

NNSA has undertaken public outreach efforts to ensure that tribal members understand the project and its implications. NNSA meets regularly with governors and others representing the Pueblos and tribes near LANL.

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622-1 cont'd

government-to-government relations to be respected, that our tribe is not subordinated by not being heard. Like other tribal leaders, I am concerned for our well-being and health, our cultural preservation, our rights as indigenous peoples. Whether the US recognizes these rights or not is irrelevant. They exist, we exist.

622-2

I am afraid because of the numerous safety implications that come with the instability of the geological strata beneath this facility, which are not addressed adequately in the current EIS, that increased seismic hazards are not addressed in this Environmental Impact Statement. The problem of forest fires is not addressed, either. The desecration of our sacred sites, the preservation of my people and all people, future generations, the plant people, the animal people, the insect people, the water beings, the cloud beings, are not addressed in this EIS. A new EIS must be created. This process of public comment is not meaningful except for this moment, all of us here together, which I'm grateful for and I appreciate.

622-1 cont'd

It is not relevant. We are going through motions that are severely flawed. We deserve real communication and dialogue. I demand, as a mother,

622-2 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive as a citizen, that this project is frozen, halted, stopped. I demand that someone involved in the final decision-making process talk to me and my pueblo, the surrounding communities, and sit down and listen to us, explain to us why we are an expendable population, why the label "national sacrifice zone" has never been retracted, why our health care is administered by the military. Why there has never been cleanup in accordance with the 2005 New Mexico Environmental Department consent order, why no health studies -- if this nuclear complex is so great for our economy, then why has our county remained the poorest in the nation and Los Alamos the richest?

622-1 cont'd

622-3

My heart goes out to workers who are being split in two, and I resent our community workers who are being put in the predicament of having to choose between a livelihood that supports their families and life. We need to heal from the split in our spirits this contradiction against our life ways of being land-based people, yet trying to survive in an imposed culture of violence.

The jobs created by this facility are not permanent, not sustainable. The billions that would be spent making billionaires richer and our communities poorer on so many levels -- spend it

622-4

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materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources). Also, refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

Impacts on all resource areas are included in Chapter 4 of the SEIS. NNSA does not agree that a new EIS is required.

622-3 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

As summarized in Chapter 3, Section 3.11.4, of the *CMRR-NF SEIS*, a number of health effects studies have been completed or are underway for LANL. Chapter 4, Section 4.6.1, of the 2008 *LANL SWEIS* provides additional detail on these studies. See the Centers for Disease Control and Prevention (CDC) website (http://www.cdc.gov/nceh/radiation/brochure/profile_los_alamos.htm) for more information on the status of the LAHDRA study.

622-4 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government and economic impacts. Funding decisions regarding major Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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instead on our schools, health care, health studies, cleanup of legacy waste, true sustainable energy and preservation of our forests and historical and cultural sites. Thank you. (Applause.)

622-4 cont'd

MR. MacALLISTER: Our next speaker will be Marian Naranjo, followed by Lisa Putkey.

MS. MARIAN NARANJO: My name is Marian Naranjo. I'm a member of Kha'p'oo Owinge, known as Santa Clara Pueblo. I'm a mother of four children, and a grandmother of six. I reside at Kha'p'oo Owinge. I'm a lifetime potter and also the founder and director of a community-based organization at Kha'p'oo Owinge called Honor Our Pueblo Existence, or HOPE.

I would like to thank the NNSA for this opportunity to make comments on the Draft Environmental Impact Statement for the construction and operation of the proposed CMRR project and also for the opportunity to speak my truth.

I would like to begin by making it clear the geological function and what this place means to me and to many pueblo people. This area, our Jemez Mountains, is a dormant volcano with many layers and many types of earth. The volcanic flow formed the finger-like mesas presently known as the Pajarito

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Plateau. This system was naturally designed so that the cloud blossoms could make and bless us with rain and snow that is naturally stored and filtered through the rocks so that the springs throughout the area could provide living things with pure water. This is known as the Pajarito fault system. This place breathes and moves. This place is the aboriginal homelands of the pueblo people. This place has sustained our people since time immemorial. These ancient mountains are a place that continues to nurture our life ways as they have throughout millennia.

The peoples of this area have always understood their responsibility in a relational coexistence as the caretakers of this place, because we are this place. As land-based people, in the short 65-plus years since the Manhattan Project, we have witnessed how the modernized world through industry and technology has changed our present and future relationship to the land.

When the United States Government and the military began its operations at LANL in 1943, the land was seized under a set of values that separated the peoples from the land. The purpose was to create weapons of mass destruction. It was an unnatural

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occurrence that changed life as we know it. The culture of violence was forcibly incorporated into our story. It is truth to say that all people, everyone in this room, are inherently interconnected with the land. Our ecosystems must be respected and cared for so that our communities are healthy now and into the future. This is the true national security. If we don't take care of the land, air, and water, it will not take care of us.

On March 1, 2005, a consent order was signed with the New Mexico Environment Department as a Department of Energy commitment that requires cleanup of Area G, the nuclear dump site at Los Alamos National Laboratory. From what I understand, tons of uncharacterized wastes from nuclear weapons research and manufacturing is stored in unlined trenches, pits, and shafts. It's evident that the proposed CMRR will only add to contamination and the waste, especially when it plans to store six metric tons of plutonium.

This does not make sense to me, especially when looking at the amount of nuclear waste there is, and no plan in place on where or what to do with it. It also makes no sense to me why DOE/NNSA wants to build this nuclear facility in a place that is

623-1

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623-1 The Consent Order referred to by the commentor includes Material Disposal Area G among the specific sites to be addressed in accordance its requirements. Note however, that there is a difference between the waste that has been disposed at Material Disposal Area G and the six metric tons of plutonium mentioned in the comment. The plutonium is not waste and would be stored within a vault within the proposed CMRR-NF. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

unstable geologically and, furthermore, changes the plans, after the fact of the seismic hazards analysis, to excavate 220,000 cubic yards of earth under the facility and fill the hole with concrete.

It's bad enough that DOE/NNSA wants to continue destroying and desecrating this sensitive natural earth system, much less spending taxpayers' money on mistakes and taking chances with Mother Nature. If you want to take chances, go to our casino.

I don't mean to be disrespectful, but I hope you can see where I'm coming from. Do you know what $4.5 billion could do to clean up the environmental impacts that still have not been adequately addressed and restore this sacred place?

I also don't understand why building this facility and sending out an Environmental Impact Statement is part of the NNSA mission. I understand the NNSA's mission's responsibility is for the management and security of the nation's nuclear weapons and nuclear nonproliferation, not building a nuclear facility with capabilities to make more than it's allowed presently.

I thought nuclear nonproliferation meant to stop the spreading of nuclear weapons. Was I

623-1 cont'd

623-2

623-2 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government and purpose and need to construct the CMRR-NF. Funding decisions regarding major Federal programs (for example, environmental restoration) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA is charged with managing the Nation's nuclear weapons complex and, in this role, prepares environmental impact statements for proposals affecting the complex.

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dreaming that there's a START treaty and that the president called for a nuclear-free world?

I understand that it's now recognized that the old CMR was built on two faults. Is this not a sign or warning to rethink this portion of the DOE/NNSA/LANL Complex Transformation operation in this place?

For the past several years, there have been government ads, programs, and training on prevention of all types of things in order to be healthier. It would be good for NNSA to consider taking their constituents' advice on prevention. It would be terrible if NNSA had to respond to a nuclear or radiological emergency at its own safe facility because of a natural disaster, such as seismic activity, and this is also part of the NNSA mission responding to nuclear and radiological emergencies in the United States and abroad. At this time, I know of no emergency evacuation plan for surrounding communities. Does that mean in case of an accident or radiological release, we shelter in place? Are we then or are we already stamped as collateral damage, even though the risks of building this nuclear facility --

MR. MacALLISTER: I need to get you away.

623-3

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623-3 Chapter 3, Section 3.11.6, Emergency Preparedness and Security, of the *CMRR-NF SEIS* addresses emergency response preparedness. Emergency response facilities and equipment, trained staff, and effective interface and integration with offsite emergency response authorities and organizations support NNSA's emergency management system at LANL. LANL personnel maintain the necessary apparatus, equipment, and a state-of-the-art Emergency Operations Center to respond effectively to virtually any type of emergency, not only at LANL, but throughout the local community as well. Additional information on the Emergency Operations Center can be found in the 2008 *LANL SWEIS.*

SPEAKER FROM THE FLOOR: She can have my time.

SPEAKER FROM THE FLOOR: We want to hear her now.

MS. MARIAN NARANJO: It's just a little.

SPEAKER FROM THE FLOOR: I can give her a little bit of my time.

MR. MacALLISTER: Do it quickly, because we have lots of people. Hopefully we'll have time for a second round.

MS. MARIAN NARANJO: Are there agreements for compensation and health care for generations to come?

This proposed action by the NNSA is not a pleasant thought for me or for other native and indigenous people. We are not blind to the actions taking place globally to other native and indigenous people in the name of profit. History has already been written of the manners of this government to the seizing of native lands and natural resources for profit for a few. As a member to an Accord Tribe, I respect the government-to-government relationship Santa Clara has with DOE, although I have seen actual proof of consultation in other EISs such as the Greater-Than-Class-C Draft EIS, but I did not see

623-4

623-4 Chapter 5, Section 5.7, Consultations with Agencies and Federally Recognized American Indian Nations, of the *Final CMRR-NF SEIS* has been revised to include more information regarding government-to-government interactions with the Pueblos that are specific to the SEIS.

A section has been added to Chapter 5, Section 5.7.1, to describe how NNSA carries out consultation requirements with federally recognized American Indian Nations.

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this in the CMRR EIS or the CMRR SEIS.

I'm not finished, but --

MR. MacALLISTER: Thank you. Our next speaker will be Lisa Putkey, followed by Reverend Holly Beaumont.

MS. LISA PUTKEY: Yo. Hey. I'd like to remind people that there are some lovely snacks over in the corner provided by Donea and myself to help you guys. You know, when I get depressed and anxious and stressed about the death of my community through radioactive contamination, it helps to eat something good.

My name -- sorry. I'm sick today. My name is Lisa Putkey. I moved here to Chimayo a year ago. Chimayo, New Mexico. I love it. Sadly, I wish that I could say that this is the place that I would love to raise my family, but whenever I think about having children here and having children, with all the releases that have already been in the area and all that are going to come, it scares -- it scares me. It scares the (expletive deleted) out of me.

I work with an organization called Think Outside the Bomb. We came -- I came here and moved here from Washington, D.C., where I was working on a national level to kill the CMRR project along with

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two other facilities that make -- together with Oak Ridge, Tennessee, here in Los Alamos, and in Kansas City, Missouri, these three facilities make all the parts of a nuclear weapon, and all three of them happen to be being rebuilt with four times the capacity to make new bomb parts.

That's real funny, especially when we're saying we're going to disarm and we already have 10,000 nuclear weapons, just about, and 2,000 that are on hair-trigger alert, well, between us and Russia, just floating around, floating around the world ready to be unleashed to obliterate the populations.

I want to talk a little bit about plutonium, six-metric-ton vaults of plutonium. Plutonium, as it's been described to me, is the most carcinogenic substance known to exist. Carcinogenic, I mean cancer. One little invisible speck about ten sizes smaller than the width of a human hair can cause cancer, if inhaled. I'm just going to repeat what Joni said earlier. Joni says --

624-1

Whoa. Was I too loud? I'm sorry. You don't need to turn me off.

As Joni says -- can you raise it? I mean, I have a really sore throat right now. Okay, thank

624-1 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. The *CMRR-NF SEIS* addresses public health and safety of the local communities, including impacts on water supply. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, and Appendix C of the SEIS.

Chapter 3, Section 3.11.4, Health Effects Studies, of the *CMRR-NF SEIS* includes a summary of a number of epidemiological studies that have been conducted in the LANL area, as well as a summary of cancer incidence and mortality figures for the Los Alamos region as derived from data from the National Cancer Institute. During the period 2003 through 2007, the annual cancer death rate for Los Alamos County was smaller than that for the state of New Mexico as a whole, and for the entire United States. The cancer incidence rates, however, of melanoma of the skin, prostate cancer, thyroid cancer, and female breast cancer were elevated in Los Alamos County with respect to state averages, while cancers of the lung, colon, and rectum occurred at rates below the state averages.

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you. I'll try. I get excited.

So I'm talking about plutonium and a six-metric-ton vault, so a molecule ten sizes smaller than a human hair can cause cancer, in a six-metric-ton vault up on a fault line in Los Alamos that we are downwind of. Interesting.

624-2

Joni talked earlier about the years between 1948 and 1955, that the Los Alamos Historical Document Retrieval Assessment Project showed that in that amount of time, from that one facility, there were 12 instances where plutonium was let out into the air. This area is more contaminated than Rocky Flats, which was closed. It was closed because of the contamination of the community. More contaminated than Rocky Flats, Savannah River site, and Hanford, in just that small window. We are most contaminated site of plutonium in this country, and they want to bring six metric tons. That's tripling our current capacity.

624-1 cont'd

Why? Why do we have to continue to bear the same burden when we've already suffered? I have been living here a year, and already I have noticed that there are so many health problems. So many people have diabetes. So many people have cancer. And rare types of cancer that you don't see

624-2 There are established programs at address the monitoring of air, water, and soil contamination in the area surrounding LANL. The results of these surveillance efforts are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). An element of this monitoring program is conducted to detect contamination that has resulted from past practices (described in the 2008 *LANL SWEIS*, Chapter 4, Section 4.3.1.5). To address contamination from past practices, NNSA intends to continue activities to implement the Consent Order, which addresses environmental restoration of past contamination and disposal sites, such as Material Disposal Area G. NNSA does not consider environmental restoration to be optional and progress on implementing those efforts is not linked to decisions on construction of the proposed CMRR-NF; however, environmental restoration activities are beyond the scope of the *CMRR-NF SEIS*. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

everywhere. So many people have deformities. So many people that have had miscarriages. And it continues and continues to go on, and there have not been health studies.

Can you please give us some health studies, so we can at least know what you're doing to us, to ourselves? We don't even have baselines, but we'd like to start.

624-1 cont'd

So yeah, environmental justice. Not happening here. Area G. It boggles my mind that we're spending 6 billion dollars on this new project to make new ways and new nuclear weapons when we already have tons -- we have all this waste contamination up there, waiting to be cleaned. Still waiting to be cleaned. Area G, like Joni mentioned, and Marian -- I was very honored to get a tour over around the area, Area G, went down a couple miles, and oh, there's all these baseball fields where everyone comes in the summer and does their tournaments right nearby.

Area G is leaking. Even the labs have document footage of the plumes that are spreading radioactive contaminants. What else is in that area? And under the ground? Santa Clara's watershed. How long are we -- do you know what their current plans,

624-2 cont'd

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their number one plan, for cleaning up Area G is? To put a tarp over it, basically. It's a special evapotrans-something tarp. But basically, what they need to do is evacuate, and they should spend those billions of dollars on evacuating all this stuff that has been left in unlined pits. Unlined. Just buried in there. But no, the Department of Energy is looking at bringing more radioactive waste in.

624-2 cont'd

I just want to -- I'm going to wrap up a little. How is my time?

MR. MacALLISTER: You're out, but --

MS. LISA PUTKEY: Okay, I'm bringing it to a closing. I have been working here with you, and someone said that we need to think about the future of our youth and how this could be good and positive.

I have been living in Chimayo. I have been working with youth. I know about the drugs and the violence and the gangs and the 60 percent dropout at Española High School. It's horrible. And the answer to that is not investing in the military. The answer to that is investing in our communities, investing in our youth. And I'm sorry, but after 65 years of operation, the highest millionaires per capita are up in Los Alamos, and the Appalachia of the west -- we're one of the poorest counties, Rio Arriba County.

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I'm sorry, but if we're still just blue collar workers, I don't see much progress. Thank you. Oh, wait. One more. Never mind.

MR. MacALLISTER: Let me remind speakers, if they want to add to their time and they run out of time up here, they can continue their entry. Using the microphones that are recording the statements in the back is one option, just as one alternative.

Our next speaker is Reverend Holly Beaumont, and she will be followed by Teresa Chavez.

REV. HOLLY BEAUMONT: Good evening. I'm the Reverend Holly Beaumont with Las Mujeres Hablan. I want to preface my statements this evening by reminding us that one of the time-tested strategies of empire as a way of controlling the people that they have conquered and seek to oppress is by turning them against each other. It's worked in India, Ireland, former Yugoslavia, Rwanda, Iraq, and it could be happening here. So I want us to be really sensitive to the fact that we will not succeed in this unless we broaden the base of opposition to the CMRR. And that means that we have to be really sensitive, all of us, as we are related to this industry which has controlled and in many ways oppressed us now for generations. We have to find

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ways to be coming together around this, rather than allowing empire to polarize us.

I want to shift my focus again this evening from the project to those who are in charge. You probably all know this. But I'm just learning, and it's been very interesting.

625-1 I think that 2006 was a pivotal moment for Los Alamos National Laboratories. I know that there are many here who have been studying the lab for decades, but I think something important happened in 2006 when the national laboratory became a for-profit industry and was turned over to, of all corporations on the face of the planet, Bechtel --

So this is what I know about Bechtel, that I'm learning, and I do want to apologize for a misstatement I made last night when I was listing some of Bechtel's projects, which are Bechtel is at work on every continent on the globe except for Antarctica. Last night I said that I could not find any evidence of any project that they have ever successfully completed. And I apologize, that's incorrect. They were responsible for building Hoover Dam.

So very quickly, Basra Children's Hospital in Iraq. It was abandoned only 35 percent complete,

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625-1 DOE and NNSA continue to provide oversight of LANL as in the past. The managing and operating contract for LANL was openly competed in 2005 for the first time in the 63-year history of the LANL site. Through 2005, the University of California had been the sole managing and operation contractor for the LANL site since its creation in 1943. The new managing and operating contractor, Los Alamos National Security, LLC, began managing LANL in June 2006. The selection of a new managing and operating contractor did not change the DOE and NNSA work performed at LANL.

although it is listed as complete. Many delays. Within a year they were already 18 months behind time. I don't know how you -- somebody else do the math on that. Doubling the cost.

There's the Boston Central Artery Tunnel Project for I-93, which was designed to pass under the city, and it reached a $14.6 billion price tag with a number of significant gross errors, including the fact that Bechtel overlooked plans for the Fleet Center, which is a 19,600-seat arena. In their plans to build this, they just failed to note that there was this Fleet Center planned right in their path. Active nine-foot-wide pipe carrying sewage and storm runoff where planners had drawn a support wall. It was not enough to support the tunnel walls.

Then there's the Alaska pipeline project awarded to Bechtel in 1974. By May of 1975 -- this is probably, you know, a world record -- Bechtel had already been fired for overall mismanagement, including duplicating charges, overstaffing, plagued with site thievery, feather-bedding, low productivity, conspicuous supply problems. Furthermore, Bechtel was accused of ordering the quality control staff to falsify thousands of x-rays of pipeline weldings in order to accelerate

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construction.

So tonight I thought, because we're in the Española Valley, it would be interesting to look at Bechtel's infamous water wars in Bolivia, since water is such an issue for all of us and since, like Bolivia, this land historically belongs to indigenous people.

In November of 2001, Bechtel sued the country of Bolivia for $50 million for cancelling a contract to run the water system in the third-largest city in the country after local people took to the streets to protest massive price hikes for water. The price hikes triggered the water war, and claims made by Bechtel that they did not increase the water rates by any more than 10 percent have been proven to be false; that, in fact, they were doubled and, in some cases, even more, on people who were in crushing poverty. The price hikes that triggered the water were driven by -- Bechtel then took a suit to the World Bank and sued Bolivia for $50 million based on the fact that they were, of course, losing their profits but also they had been required to pay off a $30 million debt owed by the previous public water company. The debt works out that -- this $30 million works out to be roughly Bechtel's revenues for

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one-half of one day. Obviously, they were extremely put out by that, and in Bolivia $30 million is the annual cost for hiring 3,000 rural doctors, 12,000 public school teachers, hooking up 125,000 families who don't have access to the public water system.

So the poorest people in Bolivia -- rates went up, Bechtel claimed, barely 10 percent when we know now that it was far more.

But then I want to conclude with a positive note because I am a clergy person and I always have to close with hope. Bechtel took this suit to the World Bank and it attracted so much attention worldwide from indigenous peoples and other advocacy groups around the world that the World Bank actually denied Bechtel's suit against Bolivia, and according to what I read, this is an unprecedented decision.

So let me just say this as a word of hope. Bechtel has been defeated before, and we can do it again. Good night. (Applause.)

MR. MacALLISTER: Our next speaker is Teresa Chavez, and she will be followed by Sheila Cooper.

MS. TERESA CHAVEZ: My name is Teresa Chavez, and I would like to identify myself as an individual who is not profiting from the war

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industrial complex. I have lived in northern New Mexico the majority of my life, and I have become more aware in the last few years of the negative consequences of waste and contamination from LANL's operations.

I pose a question. You started off this meeting talking about benefits, so I pose a question. Do the benefits of the CMRR outweigh the costs? So the benefit is obvious: Money. Let's talk about jobs for local people. They fall on the low end of the salary scale. They'll be temporary. So does it really, in the long-term, benefit local communities, you know? Higher-salary jobs will not benefit local communities. At one of the meetings, it was indicated that this beautiful building was going to try and employ and attract the brightest and the best, but I have a feeling that's not going to get -- we're not looking for the brightest and the best in these communities. They're from nationwide people that aren't going to be from here. Corporate profits. That's the majority of what's going -- what's the focus of all of this, and why this continues and they will benefit, but that does not benefit local communities, and guess what? Corporations do not have to pay taxes, so that's

626-1

626-1 The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for more information.

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another thing that will not benefit our communities.

So the consequences are health care, and the health care cost of workers whose health will be impacted. The health care and the health costs of members of the community. As a person that works with young children, for the last ten years, I have known of many children with neurological and medical conditions and high incidence of cancer, and one of the parents that I know of was posed the question from a UNM doctor specialist, "What's in the water up there up north?" They have seen a high incidence of illnesses that are not seen in other communities, neurological disorders that are just skyrocketing, and this is impacting children's learning, their well-being. *626-2*

Another unforeseeable cost is if an accident occurs, and also the impact of the environment in cleaning up the environment. *626-3* Those costs -- those are huge costs. Corporations may have an equation that places a number value on the cost of a life versus profit to be made, but life to our communities can't be measured. The cost of the CMRR are enormous and the benefits minimal.

I am adamantly opposed to the CMRR and *626-4* would like to challenge the government to do the

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626-2 Chapter 3, Section 3.11.4, Health Effects Studies, of the *CMRR-NF SEIS* shows the cancer rates for the counties surrounding LANL and the Agency for Toxic Substances and Disease Registry issued a study of the health effects of LANL operations in 2006, and concluded that, "Overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities. In some time periods, some cancers will occur more frequently and others less frequently than seen in reference populations. Often, the elevated rates are not statistically significant" (ASTDR 2006).

626-3 It is understood that if a severe accident were to occur at LANL it would be expensive to clean up. To minimize these potential costs, these facilities are designed to minimize the release of radioactive materials in the event of an accident. See Section 2.8, Nuclear Accidents, of this CRD for additional information on this topic.

626-4 NNSA notes the commentor's opposition to construction of the CMRR-NF. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

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right thing, halt construction of the CMRR, and start cleaning up the mess that's already been created.

626-4 cont'd

(Applause.)

MR. MacALLISTER: Our next speaker is Sheila Cooper, and she will be followed by Jay Gilbert Sanchez.

MS. SHEILA COOPER: Hello. My name is Sheila Cooper, and I live in Alcalde, here in the valley. And I have lived -- I am now downwind of Los Alamos, and I have lived in the shadow of Los Alamos all my life.

I understand the perspective of the construction workers and scientific workers who are supporting this project and hoping that it happens. I understand that there's tremendous poverty in this valley, and that jobs are desperately needed. And I understand -- I want to tell you a little bit about what my story is. When I was a child growing up, I lived next door to some of the family who owned the Los Alamos Ranch School and gave up their property for Los Alamos to happen. In 1953, my father, the first of his family to graduate from college, got a good job. He got a good job at Sandia. He was present at 12 atmospheric nuclear explosions at Tonopah in Nevada. At each one, he was told and we

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were told there was no danger. We were not afraid. He was not afraid. We believed him. It was a good job. We were happy to have it.

He was present at I don't know how many atmospheric nuclear explosions in the Pacific. Again, we were told and he was told there was no danger. And it was well-intentioned people who I think believed what they were saying, that were telling us that.

My father died of a brain tumor when he was younger than I am now. I live in Alcalde. I have many neighbors there who worked at Los Alamos because they were the only jobs in the area. Most of those neighbors are a little bit older than me, and they're dying of lung problems and other problems.

627-1

When I lived in Santa Fe, some very dear friends of mine worked at Los Alamos because that was the place that they could work. And their children had birth defects, the children born after he started working at Los Alamos. And we were never told there were any dangers.

So I urge you all who are working for -- and I would wish I had the opportunity to speak personally to everybody that's hoping for a job at Los Alamos, but we have no way of knowing if this is

627-1 Chapter 3, Section 3.11.4, Health Effects Studies, of the *CMRR-NF SEIS* includes a summary of a number of epidemiological studies that have been conducted in the LANL area, as well as a summary of cancer incidence and mortality figures for the Los Alamos region as derived from data from the National Cancer Institute. During the period 2003 through 2007, the annual cancer death rate for Los Alamos County was smaller than that for the state of New Mexico as a whole, and for the entire United States. The cancer incidence rates, however, of melanoma of the skin, prostate cancer, thyroid cancer, and female breast cancer were elevated in Los Alamos County with respect to state averages, while cancers of the lung, colon, and rectum occurred at rates below the state averages.

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safe, and we have no way that we can trust this Environmental Impact Statement. And I am speaking in opposition to this project, even though I understand the need for the jobs and how enticing that is, because I have been personally and devastatingly affected by these good jobs.

Until this Supplemental Environment Impact Statement fully considers all the alternatives and fully considers the impact on the health, safety, and welfare of the communities that it surrounded, which, as has been testified over and over again here tonight, has never been done, we can't allow this to go forward. None of this. Those of you working on it, those of us in the audience, those hoping for a job, we can't allow this to go forward, because you're in danger and we're in danger. So I hope that we can work together and find good jobs that don't involve endangering health.

627-2

MR. MacALLISTER: Our next speaker will be J. Gilbert Sanchez, followed by Whitney Nieman.

MR. J. GILBERT SANCHEZ: Timing me now? I have to say a piece before I start. Thank you. (Native language spoken.)

Under diplomatic diplomacies that we have, that you have, I have just stated to the people of

627-2 NNSA notes commentor's opposition to the *CMRR-NF SEIS*. The *CMRR-NF SEIS* addresses public health and safety of the local communities, including impacts on water supply. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, and Appendix C of the SEIS.

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Santa Clara, as a guest in their community, and as an elder and former governor, I have that right to speak as long as I have to without being interrupted, without being stopped or given time limitations.

With that in mind, my name is J. Gilbert Sanchez. As I stated, I'm the former governor of San Ildefonso. I am not here representing the pueblo in any iota, any way, any means.

I do have a concern. And that concern happens to do with my sacred area. In our sacred area, I, as a young man, and my young men and young women go there to harvest wild game. With the activities and the actions that are ongoing today, as you state, in preparation for this building you're building, I oppose it, and wholeheartedly, because you have not addressed how you are going to address the migration of wildlife and wild games that we have harvested since time immortal throughout the time that we were there.

628-1

Yes, during World War II, we gave up that right to go in there under the assumption that it was a top secret action that was going on there. But the United States government also bought the Fernando Hill grant from the Pueblo of San Ildefonso and its Hispanic neighbors. Up to this date, we have not

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628-1 NNSA notes the commentor's opposition to the CMRR-NF and acknowledges the commentor's concern for the migration of wildlife. Text has been added to the *Final CMRR-NF SEIS* in Chapter 4, Section 4.3.7.1, to show that migration patterns of wildlife would not be adversely impacted. Construction and operation of the CMRR-NF, if chosen in the ROD, would take place within a fenced area already maintained. Other areas potentially used outside of TA-55 during construction would only be temporary.

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been allowed to exercise some of those written things. There are written agreements and whatnot.

I stand wholeheartedly with everyone who's spoken up against the CMRR building. I think it's a disgrace to this country when this country's Congress is talking about welfare, cutting welfare, cutting my Social Security, my Medicaid, but yet the nuclear welfare chain continues to move and grow at every opportunity. It is a welfare chain. You are on welfare. I'm not on welfare. I deserve that, I worked and I put that. But when the country's wealthiest county is sitting up there with less than the number of people that it has up there, and most of them are employees of the nuclear industry, there is a welfare chain, not only here in this state, but in all 16 major sites across the country.

And you continue to milk that cow, $6 billion what it could do wonders for us, for this country. Congress is sitting there debating, wanting to cut every social program there is, but yet, not touching the war machines' money pocket. Where are you at?

And I say this to you guys, how many of you are here as elected officials? Where was that gentleman that stood up so bravely in front of all of

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us to say, he represented all of these people and the Mayor of Española, and yet not sit here throughout the whole time to listen to what's going on?

I will tell you one thing (applause), if there's a Pueblo governor, a councilman or elected official in this room at this point in time get off the skirts of the welfare lines and nuclear welfare lines. Go out there and find something.

The great City of Chimayo has artists, Alcalde has artists. The Hispanics have artists. 20 years ago I talked to Pete Domenici, I told him, Pete, and told him, I gave him an idea. I said, if all of those young men and women up in Chimayo and the lower valley, in Española Valley, could set up an opportunity to go out there and build lowrider cars, design them to the commissions and ways of people they want, we would have an economic growth so big that it's going to outshine the nuclear industry up in Los Alamos, because people are going to be hired. And we are going to be able to go to the great centers where Hispanic populations are, and even non-Hispanics will want to have a classic car rebuilt and designed the way they want it. We could do a factory up here.

We have not done that, because why?

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Because just like the ones that are saying they used to go around, you are on welfare, you don't want to get off of welfare. That's what you are. The nuclear scientists, the people that are working up at Los Alamos, you're on a nuclear welfare chain, and you can't get off of that nipple. Because it's so much, it's such an easy way of you getting money.

And as long as we continue to do those things, we can make fictitious enemies throughout the world.

My life history has been about struggle. And I know how this government works. And I know how you all work, how you offer this work, and I know where I've been, and I've seen what I've seen.

When you go out there under the guise, up in the tech, to take a bow, like in North Korea when you turn over all of the nuclear information they want, so you can have an enemy, you create your own enemy, and those are the things that you do. But get off this welfare line. Get off nuclear welfare line. You have damaged my people. You have damaged my homeland, my spiritual land. You have spent -- this country has spent billions and billions of money since 1948 in supporting and defending a religion in this world -- Israel. Yes, some of you may be of the

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Hebrew persuasion, you may throw rocks at me and whatnot, but that is a religion that this country is defending. Yet at the same time it's destroying my religion without blinking an eye.

I agree with someone that said we need a baseline. And I think if you are going to employ people from the valley, you need to set up a baseline and draw blood and urine samples, and put it in storage, because 10, 15 years, 20 years from now when they start coming down with the illnesses that they're going to come down with, it is going to impact us, healthcare, everything else. We need all of that. I need that.

628-2

Again, I oppose the going forward without doing a full NEPA Environmental Impact Statement, because there are things that have not been addressed, that need to be addressed. Water, the amount of water you are using. The health impact that we have, the spiritual impacts you have, cultural impacts you have in our daily lives is self-sustaining from the wildlife that we gather from this sacred area that we have next to you.

I thank all of you who have come up. I thank all of you for being here, for showing concern, for standing up against the monster that is here. I

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628-2 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. NNSA prepared the *CMRR-NF SEIS* as a result of changes in construction of the CMRR-NF based on additional seismic information.

As indicated in Chapter 2, Section 2.10.1, of the *CMRR-NF SEIS*, water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL. Other impacts on resources, to include health effects and cultural resources, for all alternatives are discussed in Chapter 4 of the *CMRR-NF SEIS*.

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thank you very much. I'm not as technical as all of you, as I would like to be, but the man to my right is very technical, he watches his clock. He must be paid pretty well. Get off of that welfare line.

MR. MacALLISTER: We still have a number of speakers to go. The next speaker is Whitney Nieman, and he will be followed by Julian Pratt, or --

SPEAKER FROM THE FLOOR: Pyatt.

MR. MacALLISTER: Pyatt? I'm sorry, I think it's Pyatt. Mr. Nieman?

MS. WHITNEY NIEMAN: Ms.

MR. MacALLISTER: Ms. Nieman, I'm sorry.

MS. WHITNEY NIEMAN: Haven't you ever heard of Whitney Houston?

Hi. My nickname is Molly. And I had a wonderful time with a group of people from Taos last weekend creating these. And the reason why we were creating these is because we were trying to find a way to make a connection between what's going on up there, what's going on with our nuclear energy and our nuclear weapons manufacturing.

And I'm quite baffled. I've never actually participated in a hearing before, but I'm just wondering who is listening to this? I mean, I was going to be talking to the people. I wanted them to

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listen to me. I mean, I think there's a simpatico group here, we are beautiful, and it's heartwarming to connect this way, and we are connected, but there's a disconnect, there's a serious disconnect, in my real marriage to the beautiful brain and the human beings that work up in Los Alamos to wake up, wake up.

This is the 21st century. Our main issue is our Earth, our climate change, and what are you doing? I just -- there's sort of like -- it feels like the 20th century up at Los Alamos. That's a mindset, where with nuclear energy, we're going to save the world. Well, now that's not the truth. It's not.

And I just have a couple of lovely thoughts here. I just would like to say to the people who aren't here, the people I wanted to talk to, to throw out that 20th century mindset, a dead end, literally.

I would like to see your brilliant, beautiful brains harnessed for something we really, really need, and that's cutting edge green technology. (Applause.) Put your energy into creating restoration of our Earth, air and water. Revitalize all of that from the contamination of what has been coming out of our past production up on the

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hill and around our country.

Don't wait not one more day, not one more day, not one more minute. I'm calling on you to be heroes, you beautiful, brilliant people in Los Alamos -- we are your brothers and sisters and we are asking that of you.

629-1 More nuclear warheads from your pit production will not bring our security and peace as we talked about tonight, it just hasn't shown that. All it does, is increase the proliferation more than people wanted to protect themselves against the United States.

And, of course, don't you think that you're vulnerable for terrorist activities?

A creative mind is truly a terrible thing to waste. I vote no action on the CMRR.

MR. MacALLISTER: Julian --

MS. JULIA PYATT: I guess you can't read my writing. Julia.

MR. MacALLISTER: Julia, followed by Ruth Teller.

MS. JULIA PYATT: Thank you. Hello everybody, and I wanted to thank all of the organizers at this meeting tonight. *630-1* I'm from Taos, and I just wanted to ask, one more time if we could

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629-1 NNSA notes the commentor's opposition to the CMRR-NF pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. NNSA has prepared a classified appendix to the *CMRR-NF SEIS* that evaluates the potential impacts of malevolent, terrorist, or intentional destructive acts. Substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. Chapter 4, Section 4.2.10.3, summarizes information about the classified appendix. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

630-1 After consideration of the request for a public hearing, NNSA decided to hold an informational meeting in Taos, New Mexico, rather than a public hearing. Taos is located over 50 miles (80 kilometers) from LANL and NNSA does not believe that the projected environmental impacts from the CMRR project would be likely to adversely affect the population residing in the area surrounding Taos. In making its decision, NNSA considered the cost of a fifth public hearing, the size of the population to be served by a public hearing in Taos, and the

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have a hearing up there. I do think it's really important that all of the people of northern New Mexico can be heard and represented as well, with this major project. So, I'm asking for that. And I'm voting, yes, for the Environmental Impact Statement. Definitely we need that, and a new EIS, and no building on the seismic fault line, which according to what I've read, is on the same geological magnitude as we just experienced in Japan.

630-1 cont'd

And I also would recommend that we have the scientists and nuclear experts from Japan come and speak to us here, come and speak to the scientists at Los Alamos, maybe we can learn from them and from everything that's happening in that part of the world and, my God, their whole fishing industry is destroyed, all of the ecosystem, it's just the people -- everything that's happening there, it's just really horrific.

630-2

So, if we could learn from Japan, learn from Rocky Flats, learn from Chernobyl, learn from all the nuclear incidents that have happened around the world. And I do have to agree with Molly that, it seems to me that for the other countries that our nuclear weapons manufacturer-producers, that if the United States being the grand king of all of that, if

absence of a previous record of a NEPA meeting being held in Taos. In addition to a poster session similar to that associated with the hearing, NNSA made presentations describing the CMRR-NF project and SEIS. Meeting participants were invited to ask questions following the presentations and advised of ways to provide comments on the *Draft CMRR-NF SEIS*; comment forms were made available at the meeting. As discussed in Chapter 2, Section 2.2, NEPA Process, of this CRD, a number of means of providing comments on the *Draft CMRR-NF SEIS* were available throughout the public comment period.

In response to the commentor's concern for construction on a seismic fault line, the geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

630-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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they are producing more, wouldn't that make Pakistan and North Korea, and all of those other countries want to amp up their weapons? Where does that leave us? I guess I really do get confused about that disconnect. And I thought we were supposed to be going to a more peaceful world, a more positive, dynamic, loving world. I mean, it would be so cool if we, as a people, as a human race, to actually just try for once, let's try to go the positive route. Let's try to do, you know, sustainability, and the holistic way of living. Let's try it as an experiment. This one really hasn't worked very well.

So, I did encourage that, I just, you know, really would encourage all of the wonderful people that we have at Los Alamos, to put their energies towards that. I think it would be just an absolutely monumental example to the world. It could totally change the whole dynamic of where we are at right now. It would be very exciting for this country and for everyone around the world.

And, then, lastly just as an -- there's an interesting film that's out, which I heard an interview with, and I saw the trailer, and if you all want to go see Atomic Mom. And that's a documentary. The daughter of one of the scientists at Los Alamos,

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who worked on the Manhattan Project and other nuclear projects at Yucca Mountain, it was her mother's testimony, and her mother was sworn to secrecy, because everything was, you know, classified. And it took every ounce of courage she had to actually speak, you know, what was really on her mind, towards the last days of her life. It's a brand-new film.

And then also Robert Kennedy, Jr., has just come up with Cold Mountain, which is screening at Sundance right now, but it's released nationwide in June.

So, that's not about this issue, that's about coal mining in West Virginia, but those are two films that could educate everybody, and thanks, thank you all for being here, and thanks for going into the positive.

MR. MacALLISTER: Next speaker is Ruth Teller, followed by Stephanie Hiller.

MR. T. RUTH TELLER: Thank you. You forgot the T. It's T. Ruth Teller. I am an elected representative. I am the president-elect of Northern New Mexico College. No, not the president-elect. The student president-elect. I'm sorry. Student president-elect. And why am I the only elected representative here? Why am I the only one with the

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integrity to speak? Ben Ray Lujan receives $8,000 from Bechtel and $11,000 from Honeywell just in the last two years. It might be because the majority of Espanola City Councilors work for LANL. Maybe there's some money corruption going on. Just an idea.

We have a choice. We can be like the people in Spain and rise up against the corruption of our political institutions in favor of real democracy now, or we can be like Japan -- like Germany, where they're decommissioning their nuclear infrastructure. Or we can be like Japan. We can be like Egypt, where the people overthrew the corrupt political dictators who for decades were destroying their country and stealing their money, or we can be like Japan and suffer the consequences of nuclear catastrophe.

This process, this charade of a hearing, is a fraud and a sham. It is dictatorial because no alternative except the construction of CMRR is being considered, and our voices are not being generally heard. This SEIS explicitly states that and refuses to address most of the substantive concerns that opponents of CMRR raised in the original EIS hearings.

This is fake democracy in action, i.e.,

631-1

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631-1 NNSA notes the commentor's opposition for the *CMRR-NF SEIS*. As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. Regarding alternatives addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. Refer to Section 2.2, NEPA Process, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

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dictatorship. Politics aside, and discounting the morality of nuclear weapons production, the plan to build CMRR in a seismically active nuclear zone is sheer insanity. The Defense Nuclear Facility Safety Board created by Congress to oversee the DOE's nuclear facilities stated that LANL estimates a 1-in-50 chance of seismic collapse during a ten-year time frame, which would result in a collapse of nuclear materials. That was a quote from the Defense Nuclear Facility Safety Board.

If the CMRR is built as planned, the old CMRR will still need to be used for at least the next ten years. For a citizen to live here, a 2 percent chance of nuclear carcinogenic in the next decade is 2 percent too high. The Preferred Alternative should be to immediately decommission the CMR and stop building the CMRR.

The Española School District right now is laying off teachers. I'm a student in the teacher education program. What is Mary Alice Lucero doing to save our teachers? What is the mayor doing to create good, healthy, green, positive jobs in our community? Why did her representative not stay here? If the mayor was a student in my civics class, she would get an F for dishonesty, corruption and selling

631-2

631-2 All proposed new DOE facilities are required to be designed, constructed, and operated in compliance with applicable DOE orders, requirements, and governing standards, established to protect public and worker health and the environment.

As described in Chapter 2, Section 2.6, of the *CMRR-NF SEIS*, the CMRR-NF would be constructed in accordance with DOE requirements for nuclear facilities, protection, site seismic design, and security. The building design includes safety-class fire suppression equipment.

Regarding the occupancy of the CMR Building, the existing CMR Building operates at a reduced level due to seismic and security concerns associated with this 60-year-old building. As stated in Chapter 1, Section 1.2, a series of upgrades have been performed to address changing building and safety requirements. As a result of operational, safety, and seismic issues, a number of actions have been implemented to enable continued use of the current CMR Building while ensuring safe and reliable operations. Changes that have occurred to maintain safe and reliable operations have been to administratively restrict the amount of material stored within the building and in use at any given time, completely remove operations from three wings of the building, and generally limit operations in the other three laboratory wings that remain functional.

See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

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out our children's future. She fires teachers with one hand while she lobbies to build bombs with the other. Where is the Rio Grande Sun? Where is our community newspaper? Are they here? No. They're not here. They love to report gossip but they don't report real news. Why? In light of Fukushima, this is really a travesty.

I would like to get personal for a moment. I was sitting behind you, and I couldn't see your eyes, but I think you should really be ashamed for your role in authoring this travesty of a document.

And you, sir, I could look in your eyes, and I think you should be locked up before you kill again, because this really is genocide, what you are doing to this community, what you're doing to communities around the world for your nuclear weapons. And people who support jobs and would rather sacrifice their health and our community's environment for a few dollars -- I think you should really go to Japan, because I hear there's some great jobs there cleaning up after their nuclear disaster. Go there. Clean up the disaster there.

So I hope that we really can learn from this, and it's been really inspiring to listen to all your voices, and we should have this kind of

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community meeting without LANL in the room and really do something to change our circumstances. And as your student president, I look forward to serving you in the next year. Thank you. (Applause.)

MR. MacALLISTER: Our next speaker will be Stephanie Hiller, followed by Andrez Juarez. Stephanie Hiller?

MS. STEPHANIE HILLER: Here I am. Hi, everyone. I'm Stephanie Hiller. I live in Santa Fe, and it's been a great pleasure listening to all of you. I don't have a prepared speech. I actually started one, and then I never finished it, and so I'm actually just going to say a few thoughts in response to things that have been said before, mostly.

I'm pretty shaken up by that young man's presentation. Youth is ruthless, huh? And thank God for that. It's time we really listened to our young people, and it's time they really felt like they could shout. And it's really time for all of us to shout.

The things that are happening in our world now are just so distorted and perverted and weird, and you know, we're getting used to it. There's a story a nuclear activist likes to tell about the frog experiment. Forgive me if you have heard this one

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before, but it's been haunting me lately. The frog experiment is, you have a pot of boiling water and you throw a frog into it and the frog leaps out. It's hot. Or you have a pot of water, you put it on the stove, and you put the frog into the pot of water, and you heat the water slowly, and the frog dies, because he slowly got used to the rise in temperature and lost the vim, vigor, and vitality -- remember vim, vigor and vitality? -- to get out.

It's this strange slumberous state we're in in this country that is so frightening. And we lapse into it, even those of us who are here spending our evening talking about this horror show up on the hill that is not just up on the hill. It's everywhere. It's all over the place. And when you look at the map about where nuclear contamination is in this country, it's all over the country. It's everywhere. You can't just leave. You can't just say, "Okay, that's it, I'm getting out of Santa Fe." I say this every now and then. "I don't know why I came here. I'm leaving. The water has, you know, got plutonium in it. I'm leaving."

Where am I going to go? If you really look at the map, there's Idaho Falls, there's Hanford, there's Rocky -- my son lives right down the road

632-1

632-1 NNSA notes the commentor's concerns regarding the effects of nuclear technology. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

from Rocky -- where Rocky Flats is. You know they made a park out of it? You know, I think we really -- when I listen to the people here from the pueblos -- and it's happened to me before when they speak -- it's so clear, and I just think we need to listen to them, because we white people, we Americans, we've lost our minds. Our minds are just -- they're not operating anymore. I mean, to spend $6 billion and talk about taking seniors off -- I can speak to that -- taking seniors off of Medicare, I mean, this is just total -- it's lunacy. Let's just spend more money so we're prepared to defend ourselves by killing more people in a minute overnight.

Oppenheimer once was filmed saying, "Is it true that if we continue on this path, we'll be able to destroy 40 million people in eight cities overnight?" "Yes. It is true."

And that was then. So think of what we can do now.

So on a slightly happier note, I wanted to tell you that Obama is looking for money from the nuclear budget to cut. He wants to cut $400 billion from the nuclear weapons budget, so maybe some of us want to write to him and make a suggestion of

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something he can cut.

Lately, I have been thinking of the line that -- I think it was in the '60s -- "What if they had a war and nobody came?" And you know, it's more than just a clever line. It's a strategy. What about not participating in this whole engine of destruction? What about just pulling out, pulling the plug, looking at all the places where we feed into it, and not doing it anymore? And we could have town meetings and we could discuss it, and we could host it, and we could invite people who work at the lab, because I honestly -- I don't know how anyone can make a living making this stuff. I just don't. I recognize that we're all human beings and I believe that we really can, all of us, come together to get out of the really dangerous predicament we're now in. We could do that, and we really, really must try. Thank you. (Applause.)

MR. MacALLISTER: Our next speaker is Andrez Juarez, followed by Kathy Sanchez.

MR. ANDREZ JUAREZ: Good evening, everyone. I'd like to thank everyone for showing up and once again, to the city councilman who was here and wanted to improve our schools, maybe he should consider firing everybody on the school board.

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I'm going to be honest with you. I'm for this. I think they should build the CMRR. In fact, I think the military-industrial complex should expand. I think what we need is more nuclear research. What we need is more bombs. Because for every bomb we have, we don't have to build a school to educate people. We don't have to build a home to house poor people. We don't have to supply health care for poor people. And you know, to be honest, I think this is, you know, going to ensure that our country continues down its spiral to becoming a third world country, really honestly, because remember, we only need people smart enough to operate the machines, not smart enough to ask questions. Thank you. (Applause.)

MR. MacALLISTER: Our next speaker is Kathy Sanchez, followed by David Norris.

MS. KATHY SANCHEZ: (In Navajo.) My name is Kathy Sanchez, and I'm from San Ildefonso Pueblo, and I also work with Tewa Women United. I did not really prepare a speech, but I just wanted to speak from the heart of the things that I have been hearing or that's going on. Tomorrow we're hosting a group of Middle Eastern dignitaries at our office, and they're coming here to ask us native people about

633-1

633-1 NNSA notes the comment. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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human rights. What's the UN human rights applicability here in the United States? And I must say this hearing is an example of environmental injustice that's happening. Our lives, our culture, are being demised and we're not really being informed, so human rights are being violated.

Indigenous human rights finally was, I think, adopted by the United States in 2007, yet this thing is sitting in our sacred lands, and right now, the Indigenous Forum is happening in New York, and they're talking about biodiversity and taking of resources, things from indigenous lands for use, because the people with the money have a right to sue those if they don't make a profit.

I think once the lab has turned to a for-profit organization -- and our government is part of it -- that they're probably going to sue all of us if they die in the process and don't make their money back. They're probably just going to leave the mess for us again, and that's a right that we have to be well, and yet they're taking that away from us.

Again, last year, a couple of years back, there was a NEPA process, a public hearing, happening again and we posed the question that the NEPA process is not adequate, it's like taking one step forward,

634-1

634-1 It is customary for NNSA final EISs to summarize what changes were made to the draft EIS. Please refer to Chapter 1, Section 1.8, Changes from the *Draft CMRR-NF SEIS*.

two steps back, and then they leave it there. They don't come back to us to tell us what corrections they made. They say, "Go look at the book, we made a comment, not applicable," which is what the CMR EIS is about. So they cut that out.

So again, we all know violations are happening. Who's going to hold our government or for-profit organizations accountable? It has to be us that speak up. And the youth are strong in their voice and I'm glad they were able to say what they say, because our behavioral dispositioning is taken from us, when they say, "You can't shout, you have to be polite, you have to be calm in these situations, we're going to give you money, don't worry."

I was going to say (expletive deleted), but maybe I shouldn't say that word, so scratch that out. But this is just like they were saying, madness, crazy. How many reactors do we need to have meltdowns? Japan is on the ocean and the oceans are now contaminated. Where is our water? Our water is hiding from us because the water wants to be safe for people, wants to be safe for children, and yet, who's taking the bulk of that secret water from us?

Our children, children's children, are miscarrying because they can't come to full term. We

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634-1 cont'd

634-2

634-2 NNSA acknowledges the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accidents that occurred at the Fukushima Daiichi Nuclear Power Plant, and earlier at the Chernobyl Nuclear Site, requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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went to visit Chernobyl and visited a scientist who had jars of all the babies that were still in their mother's womb from week one, two, three months, four months, five months. They were all baked like in a microwave oven. He had them up there to show what happens to women that are carrying when there's an accident that happens like Japan.

634-2 cont'd

Well, our people here, the indigenous peoples, the population is already showing that our death rates have far exceeded our birth rate, and that's what Russia was telling us at that time. So we're already experiencing that there. There is no logic to this EIS CMRR going on a supplemental, when you need a new one, when all the accidents that have happened with the fires and all the faults are showing, the shaking. It shouldn't even be there in our sacred -- they should have already left by now. That industry should have already infolded in on itself, because, I mean, it's just insanity that's happening, and the culture of violence has numbed us all out to where we don't even recognize our ability to be sacred, to be connected to our Mother Earth.

634-3

We as Tewa Women United are writing our objectives, and the people with the money were telling us, "You cannot write 'mother earth' in

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634-3 As discussed in Section 2.2, NEPA Process, of this CRD, based on CEQ and DOE NEPA regulations, NNSA determined that an SEIS is the appropriate level of analysis for the proposed action. The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

there, because that's not an objective."

So stopping the violence against Mother Earth, I would declare that here, that's one of our violations that are happening with our human rights. Thank you. (Applause.)

MR. MacALLISTER: Our next speaker is David Norris, followed by Teresa Juarez. David Norris? All right. Teresa Juarez?

MS. TERESA JUAREZ: I don't run on five minutes. It disturbs me when people come to my community and they tell me, "You got five minutes to speak." And if I had a salary like yours, I wouldn't worry about it.

Let's see. You know, it's kind of hard to keep repeating what everybody else has already said, and the reason is that it's like, you know, how many times can we come to these meetings and repeat the same things over and over again? And then they go back and they put in these books, about ten stacks of boxes. One time we asked that we would like to read some of this stuff, and they sent like 20 boxes that high of material, and I said, "Well, you know, can you like break it down for us?" Like we try to break it down here.

But I do want to speak to one thing, you

635-1

635-1 The *CMRR-NF SEIS* is a large document due to the amount of material and the level of detail required. For this reason, a Summary document is provided to highlight the major conclusions. NNSA may provide a copy of just the Summary of the *CMRR-NF SEIS* upon request.

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know, and that is the poverty in our communities. You know, I heard that here a while back there was a study done that said that one out of every three children born here are born into poverty. And the other thing is that, you know, I don't think they have done a good study of the high cancer rates that really exist in this area, probably because they really don't want to know, you know. It wouldn't be beneficial to them, because what is beneficial to them is to develop this CMRR.

635-2

I was telling somebody I don't even know how to say it, you know, pronounce it, so I'll use the acronyms, as everybody else did.

And the other thing is that you know, I think we've heard from people here, both Gilbert and Kathy Sanchez, speaking about the impacts to indigenous communities, and also recognizing Chicano traditional communities, Hispanic communities here, that are impacted and every other community that is impacted by the contamination since the contamination has no boundaries, and does not discriminate. That's one thing that doesn't discriminate. So we should all say we finally found an answer to discrimination, because that baby doesn't discriminate, believe me.

And so, you know, if our water gets

635-2 It is not within the scope of the *CMRR-NF SEIS* to perform a government health study of the residents in the Espanola Valley. However, Chapter 3, Section 3.11.4, Health Effects Studies, of the *CMRR-NF SEIS* shows the cancer rates for the counties surrounding LANL and the Agency for Toxic Substances and Disease Registry issued a study of the health effects of LANL operations in 2006, and concluded that, "Overall, cancer rates in the Los Alamos area are similar to cancer rates found in other communities. In some time periods, some cancers will occur more frequently and others less frequently than seen in reference populations. Often, the elevated rates are not statistically significant" (ASTDR 2006).

contaminated, everybody's water gets contaminated. And we heard that two wells in Española had been contaminated but then they backtrack and they said, "Well, you know, there is this natural occurrence that happens in water that creates that, you know. So you know, it can't be contamination coming down and your water can't be contaminated. So you know, again, go back to sleep."

And so one of the things that bothers me a lot, too, is they always try to brush this off, especially in northern New Mexico, with the issue that most of us or most of our families or extended families are all drugged up. Not only do we live on welfare, but we're all drugged up. You know? And so then you got to look around and say, well, you know, why is that? Because I have always wanted to know, why it is that most of our communities across the country, be it here in New Mexico or Savannah or Hanford, wherever, has a drug problem? We're drugged, unemployed, and living on welfare. That's no coincidence. We had some of the highest rate of unemployment in some of these communities. Our people can't even get a job.

And then to complain about the secondary markets, you know, and then our schools. Los Alamos

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got good schools. They got good teachers. They got the best. But when you come down here to the valley and you start talking about education, and you look at what our kids have to go through, to fight to graduate, it's insane, you know. But that's what this government has done.

And they play these games. How much do you get paid to sit there? One time I was at a meeting and the man fell asleep. And I said, "Oh, great. I wish I was getting paid what you're getting paid," what, at that time, I think they were getting paid almost like $300 an hour. Some ridiculous thing for days. We don't even got people in this community making $300 to live on. This is the reality of what Los Alamos has done to this community. It has impoverished our community.

Don't come up here, sir. Please don't come up here.

MR. MacALLISTER: I'm just letting you know --

MS. TERESA JUAREZ: Don't let me know. I know. Okay? I don't want to hear it. Okay. You know, so that's what Los Alamos has done to us. That's what it's done to the indigenous communities, the Chicano community, the poor white community and

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every community that you can talk about. It has created poverty. What do we have to do? Go work at Wal-Mart, $7 an hour, if you're lucky? No benefits? Come on, let's get real, people.

And don't upset me, because you know then I'll really get upset, you know --

MR. MacALLISTER: Your time is up.

MS. TERESA JUAREZ: My time is up, sir, when I say my time is up. And hey, you know what? I don't need your microphone, because I'm going to tell you one thing --

MR. MacALLISTER: I will have you removed.

MS. TERESA JUAREZ: Hey, you can have me removed, because I would like to see any of the newspapers standing here right now.

SPEAKER FROM THE FLOOR: Let her speak.

MR. MacALLISTER: Sir, I'm going to need --

MS. TERESA JUAREZ: I want to say --

SPEAKER FROM THE FLOOR: Let her speak. Let her speak.

MR. MacALLISTER: We still have -- are you willing to keep the rest of the people from speaking? You want her to cut off other people?

MS. TERESA JUAREZ: Don't touch me.

SANTA CLARA SECURITY OFFICER: Ladies and

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gentlemen, hold on a second. Hold on a second. Listen up. Okay? To let you know, this is Santa Clara Tribal Security. This is tribal land. This has nothing to do with the seminar here. This is our room, and I'm going to tell you now we have rules that we enforce in this room.

SPEAKER FROM THE FLOOR: A five-minute rule?

SANTA CLARA SECURITY OFFICER: This is not -- you know what, that's not that rule. This is the rule of our facility right here. This is our facility, tribal land. You know what? You got to follow the rules.

SPEAKER FROM THE FLOOR: I can't hear what the rule was.

MS. TERESA JUAREZ: I asked him to let me say the last comment that I had, and he wouldn't.

SANTA CLARA SECURITY OFFICER: Your time is up.

Sir, if you can go ahead and continue.

SPEAKER FROM THE FLOOR: Let's take a vote.

MR. MacALLISTER: We'll have more time for the second round. We'll have more time.

(A discussion was held off the record.)

MR. MacALLISTER: If we can get the meeting

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back in order, hopefully we'll have time for another round of speakers. But it's disrespectful to the speakers.

The next speaker is Miguel Moreno, followed by Robert Chavez.

MR. MIGUEL MORENO: I want to thank everybody for coming out tonight. Thank you, Nonny, thanks everybody for, you know, coming and giving you guys great opinions about, you know, the death and destruction of our communities, you know, the legacy of death and chaos within our world.

And, yes, I do oppose the CMRR-NF facility, the Chemical and Metallurgy and Research Replacement Nuclear Facility. And, no, as a taxpayer I do not want to invest $180 billion into the war complex for the -- you know, on the course of the next ten years. What I'm sick and tired of is being sick and tired. Sick and tired of coming to these hearings, listening to this (expletive deleted), and listening to these people talk about how, you know, we are going to -- we want to attract bright, new minds, you know, bright young minds. What about the minds of our community? You know, what about the health of our community here in New Mexico and northern New Mexico?

I just came from Savannah River site two

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636-1 NNSA notes the commentor's opposition to the CMRR-NF project. Funding decisions regarding major Federal programs (for example, defense, education, healthcare, and renewable energy) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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weekends ago. You know, I go all over. You know, this isn't something new. You know this chaos, they're paid to be here to listen to our, you know, quote, unquote (expletive deleted) but, you know, it's okay, because we are here for the long run, you know. My kids and my kids' kids, are the ones that are going to have to deal with the death and destruction and the contamination of our community, the contamination of our water and land.

You know, here, Española alone, we had to shut down three wells, water wells, drinking water wells because of contamination, due to Los Alamos.

You know, I'm sick and tired of coming to these, you know, public comments, with my grandmother being harassed by the, you know, 180 thousand, million, trillion dollar-an-hour A-holes that we have to deal with.

Yeah, that's what I have to say, and I oppose the CMRR building. I oppose, you know, any new construction that goes, you know, along with the nuclear complex. If we want to get real about it and let's help our communities to thrive by focusing on some of these bright, new, young minds that you guys are talking about bringing with $180 billion that's coming out of the -- you know, out of the war budget

636-1 cont'd

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towards, you know, renewable energy, towards cleaning up our water, towards, you know, giving our communities a fighting chance.

Thank you.

MR. MacALLISTER: Our next speaker is Robert Chavez.

SPEAKER FROM THE FLOOR: Robert.

MR. ROBERT CHAVEZ: Hello, everybody. Thank you guys for being here today. I would like to take a couple of seconds for silence to honor the people who have lost their lives, dedicated people, in all of the nuclear industries up and down. (Silence.) All right. Thank you.

So, as this gentleman back here so finely told you, that we are on Native American land, and I'm Native American. These are my people's land. We have been here for thousands of years, and we wish to continue being here.

At Chernobyl there's an area the size -- an that is not livable, 25 miles wide and a hundred miles across.

I am less than 30 miles from Los Alamos. If something was to go wrong, would I have to leave my home, would I not be allowed to return for the rest of my life? It's plutonium that we are talking

637-1

637-1 NNSA acknowledges the commentor's concern that an accident similar to the one that occurred in Chernobyl at the nuclear reactor site could happen at LANL. There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at Chernobyl requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

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of here, plutonium, large amounts of plutonium.

I don't know about you guys, but I'm not in favor of plutonium or any facility that holds any amount whatsoever, because it's not big amounts of plutonium, it's the very small particles that get in your lungs. From what I hear, that's really dangerous.

637-1 cont'd

You know, people have dedicated their lives, have gave up their futures to try to -- excuse me, I'm speaking, can I have a little bit of silence?

SPEAKER FROM THE FLOOR: Yeah. (Applause.)

MR. ROBERT CHAVEZ: I just want to say that throughout it all, I want to thank you guys. You guys have really taught me a lot. You guys have given me a lesson in life. The CMRR has introduced me to some wonderful people. It has made and brought to me relationships that will last a lifetime. But I have to say that maybe the way in which it was done is not the best of ways. Why do I have to go meet people, wonderful people, opposing nuclear industry fighting for my future, fighting for my life?

I say here today, I stand here today, in the hopes that in the future, I will be able to hold my head high and say, I did it, me and my community stood up, and there no longer is going to be a

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nuclear facility here in New Mexico whatsoever.

People, I've learned a lot over the last few years, a lot. I've been -- I've known about Los Alamos my whole entire life. It's all I've ever known, since I was young, watching videos, propaganda videos, learning about the effects of plutonium, learning about the effects of other harmful radioactive materials and learning just how involved all of us are in what goes on.

Each and every person standing here, every single one of you guys, has a life. You only live it one time. You may wake up tomorrow, and the person beside you may not be there any more, or you, yourself, may not be there any more.

It's about life, ladies and gentlemen. It's about the right to be able to live a healthy, well-deserved life that each one of us has gotten the equal opportunity to live. And it's just not happening. We learned from our mistakes. No, we haven't. We haven't, no. Not by a long shot. There is much more work ahead of us, a lot more fight within me. I will put my life on the line for all of my fellow community, all of my fellow people, no matter what color, religion or race.

Sure, I'm Native American, but that doesn't

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stop me from loving everybody. It doesn't matter if you're white, green, yellow, pink, purple, silver, I'm still going to care about you, you know.

You people working for Los Alamos, I could come here and insult you guys or whatever, but you guys are real people, too. You guys have heartbeats, you have red blood, all of you guys. You guys all have two eyes. You guys all stand here today, you guys will all go back to your families tonight, loving and caring, and I just ask you guys that you give our community a chance to do the same.

Thank you, guys, very much.

MR. MacALLISTER: We have final call for Pat Vigil or David Norris. Final call.

We have just a very few minutes until the official end of the meeting. Is there somebody who would like to make a comment? Yes, sir.

MR. SCOTT KOVAK: Thank you, sir. It's probably okay. Thank you everyone. My name is Scott Kovak with Nuclear Watch New Mexico. I just would like to take a quick second here and read from the SEIS. Turn your hymnals to page S-39, and we're looking at the socioeconomic impacts of construction of the modified CMRR-NF alternative, and I quote, "Peak direct" -- quotation marks -- "790 workers,

638-1

638-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The *CMRR-NF SEIS* presents the environmental impacts of construction and operation of the facility; one area of environmental impacts is socioeconomics, including jobs. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for additional information.

The commentor is correct. Workers that would work in the Modified CMRR-NF are expected to come from the CMR Building and other facilities at LANL.

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plus indirect, 450 workers, employment would represent less than one percent of the regional workforce and would have little socioeconomic effect." That's for construction.

For operations, socioeconomic impacts read, for the modified CMRR-NF alternative, "Approximately 550 workers would be at the CMRR facility, and they would come from the CMR building and other facilities at LANL. So the facility would not increase employment or change the socioeconomic conditions in the region."

638-1 cont'd

SPEAKER FROM THE FLOOR: Right on.

MR. SCOTT KOVAK: So, now, first I thought, well, how can you spend $6 billion and have little socioeconomic effect.

SPEAKER FROM THE FLOOR: You can't.

MR. SCOTT KOVAK: The way you do that, I think, is by maintaining the status quo. So what could possibly happen, and what will happen is that the most of the money, most of this $6 billion, will stay on the hill at the Laboratory. The crumbs will roll off the hill to the outlying region. We need to stop and not accept the crumbs any more.

638-2

Thank you.

MR. MacALLISTER: And we are, ladies and

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638-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on major Federal programs (for example, defense and education) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for additional information.

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gentlemen, at the 9:00 o'clock mark. And so this brings us to the official close of our meeting. And I thank you all for your attendance, and -- a question?

MS. JONI ARENDS: Where's your e-mail traffic? I will come up here to the mike. My name?

MR. MacALLISTER: Yes, please.

MS. JONI ARENDS: Joni Arends for Concerned Citizens for Nuclear Safety, with Susan Gordon, with the Alliance for Nuclear Accountability, John Green with Code Pink, and others, we wrote a letter, an e-mail to Mr. Tegtmeier about the hearing process, and he said that for safety reasons the hearing shouldn't go beyond 10:00 p.m. So I think the question needs to be asked at this point, how many people want to speak, and how many minutes will they take. And to understand how long we would stay longer for this -- at this period of time.

That was part of our e-mail traffic.

MR. TEGTMEIER: Part of the reasoning for that is to make sure that everyone had a chance to speak, and I believe we can make another pass at the room for those who haven't had a chance to speak yet.

SPEAKER FROM THE FLOOR: Make them go to the mike.

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MR. TEGTMEIER: I would like to ask, is there anyone else here that's not yet had the chance to speak, other than Scott, and I would like to accommodate them.

MR. MacALLISTER: Are there people that would like to make a statement who have not yet had the chance to make a statement?

SPEAKER FROM THE FLOOR: What about people that wanted to continue their statement, like they were cut off earlier?

MR. TEGTMEIER: How many individuals? I think there was two or three that wanted. But here again, we would like to limit that to a few minutes to finish out, for those who didn't.

SPEAKER FROM THE FLOOR: Oh, yeah, we can do that.

MR. TEGTMEIER: I believe there's only a few individuals.

SPEAKER FROM THE FLOOR: I only have one thing to ask --

MR. MacALLISTER: Can I have a show of hands for people -- one. How many other folks would like to just --

MR. TEGTMEIER: I think just a few.

MR. MacALLISTER: Looks like we've got four

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people or five.

UNIDENTIFIED SPEAKER: The only thing I want to ask, and I hope it goes with that document you are typing in there.

MR. TEGTMEIER: It will be recorded.

MS. TERESA JUAREZ: Is that I think what we need here is that we need to develop, and the money -- and there needs to be money placed in that so we can develop a community board. And that is representative of the people that are affected by this, and it doesn't mean the citizens advisory board, and it doesn't mean other stakeholders. It means community people that are having to deal with the effects of the contamination, whether that's in our groundwater, whether that's in our soil, or air, or whatever it is. But that committee needs to be developed so that we can talk about also the impacts of, you know, the poverty in our community, and the joblessness that exists in this community. And that there needs to be a fair market in order for our people to have a fair way to get into those job markets that we don't have access to.

635-3

If we're going talking about, we don't want them bringing outside construction, you know, people that come and build it like the gentleman was talking

635-3 NNSA notes the commentor's statement.

about. We're not going to benefit from that. And I think it's about time that we be able to have those committees that addresses our issues, and not always the stakeholder on the other side. (Applause.)

MR. MacALLISTER: One thing I should mention, because we are still recording everybody's statement, and I'm not now announcing you by name, it would be very helpful, if you don't mind, giving your name on the record, so that when the person transcribes it, they can have your name attached to your statement.

MS. TERESA JUAREZ: That's Teresa Juarez.

MR. MacALLISTER: Thank you, Ms. Juarez. Who would like to speak next? Yes, ma'am.

MS. JEANNE GREEN: Jeanne Green. I just have a question, Mr. Tegtmeier. Why is it that we cannot have a full hearing in Taos?

616-1 cont'd

MR. TEGTMEIER: We're not here to answer that question, but we are continuing to pursue alternatives for Taos.

SPEAKER FROM THE FLOOR: Microphone.

MS. JEANNE GREEN: What are the reasons that we cannot have a hearing in Taos?

MR. TEGTMEIER: I can't speak to that myself personally.

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MS. JEANNE GREEN: You are the Document Manager.

MR. TEGTMEIER: That's correct, but I don't make all of the decisions.

MS. JEANNE GREEN: Are you on a board that's making this decision? No?

MR. TEGTMEIER: No, I don't. Actually it's my management that makes that decision in part. So, I can't speak to specifics.

MS. JEANNE GREEN: Okay. So who is the name of the person I need to speak to?

MR. TEGTMEIER: We are working that issue right now.

MR. MacALLISTER: Let me go to a mike so I can repeat what you said without the microphone.

MS. JEANNE GREEN: I didn't get that. Who was that now? Who is your management?

MR. TEGTMEIER: We are working with the request and determining the exact nature of that and setting up that right now, I'm not aware of all of the details of that. I'm not sure if the individual is here in the room.

MS. JEANNE GREEN: Well, what I heard was that there was not -- that you didn't want to pay for a building, and the mayor has offered a building, so that can't be the reason.

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MR. TEGTMEIER: No.

MS. JEANNE GREEN: So I don't know why it would be more expensive to have a hearing to let people to speak, than it would be for you to come down and do a presentation, and have a microphone. I don't understand, you know, where's the expense? And if we are talking about a six-and-a-half-billion-dollar facility, why can't we spend a little -- for a hearing in Taos? We're within your 50 miles, we are affected, we were affected by the fire.

616-1 cont'd

MR. TEGTMEIER: If you allow us to continue with the details --

OTHER SPEAKERS FROM THE FLOOR: Louder.

MR. TEGTMEIER: If you allow us to continue with the details, we're working on the issue, but haven't come to a final resolution, so we can't answer that at this meeting, but we certainly have the request. We have the signatures from the folks who have been working with the Mayor's Office, and will be finalizing the arrangements and announcing those appropriately, and we are in the process of doing that, but we can't do that this evening.

MS. JEANNE GREEN: Well, I would just like the name of the person or persons who are making this

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decision.

MR. TEGTMEIER: It's a collective decision within our office, and we'll let the folks know when the details are available. That's all I know this evening.

MS. JEANNE GREEN: Thank you.

MR. MacALLISTER: And just in case people didn't hear that, the question was, and it's been repeatedly put on the record, there's a request to have a hearing in Taos, for the benefit of the community, that it's a hardship to drive long distances outside of Taos. The response to that, if I understand it correctly, if I'm wrong, is that that request is being worked, there is efforts under way at this point. There isn't a final -- there isn't concrete information to provide. Is that a fair recap?

MR. TEGTMEIER: That's correct. We're working on the issue, and we will announce the details as they are developed. And it won't be very long from now.

MR. MacALLISTER: Is there somebody else who wanted to make a comment? Yes, sir. And remember to give your name again.

MR. JAY COGHLAN: That's fine. I am Jay Coghlan with Nuke Watch New Mexico. I will try to

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abbreviate my supplemental comments tonight, expand on them tomorrow in Santa Fe.

I tried to get up and identify what I believe are two pretty serious general legal vulnerabilities to this Supplemental EIS, and I got as far as talking about how this document fails to revisit mission and need.

613-1 cont'd

And to expand on that a little bit more, you know, once again, this nuclear facility, it's not only about, but it's primarily about, expanded plutonium production.

613-2 cont'd

I think it useful to try to briefly review the history of pit production since 1989, because the audience generally won't be aware of this. But in 1989, the FBI raided Rocky Flats, investigating alleged environmental crimes. And, at that time -- I don't know this for a fact, but Rocky Flats was probably, you know, producing on the order of a thousand pits a year. But that FBI raid just cut it down, you know, literally pits and the pipeline, just cut it out just like that.

So, after that, DOE, with the pit in production at that time, the W88 for sub-launched warhead, a Trident warhead, 450 kiloton warhead.

So, there were 350 that were produced, and

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the Department of Energy always maintained that there weren't enough W88 pits. And that's kind of like the camel's nose under the tent. The reason DOE used to reestablish pit production first at Los Alamos, limited capacity.

But then -- this was about seven years ago, then the Department of Energy comes out with a proposal for the modern pit facility to be situated at five -- one of five candidate sites, but that was originally proposed to produce on the order 450 pits a year. And that got defeated in part through a NEPA process like we're undergoing now.

Then, the National Nuclear Security Administration came back with something they called the consolidated plutonium center, that was going to produce 125 pits per year.

And at that particular time, that was specifically tied, that number was tied to production of new designed nuclear weapons, the so-called Reliable Replacement Warhead.

That got shot down. Again, in part, through a NEPA process like this.

And then NNSA came back, proposed producing up to 80 pits per year at Los Alamos. That, too, got shot down.

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I'm trying to display a history, what I regard as a favorable history. Look at the overall trend. Now, if we're going down for producing, like, a thousand pits back in 1989, defeating a proposal for 450 pits, and 125, then 80, and the overall trend, you know, is very clear.

Now, the reason I bring this up -- I bring this up for a number of reasons. First of all, it's to encourage citizen activism. It actually works. You ought to give it a shot.

But look at the historic trend, and this gets to the need for, or rather the lack of need for the CMRR Nuclear Facility. And I just don't think that Congress is going to allow production of new design weapons, especially when we have Senator Dianne Feinstein, head of Senate Energy and Water Appropriations. She is not going to allow that.

What I believe NNSA is trying to do in the laboratories is trying to achieve their RRW-like aims incrementally through life extension programs. And these life extension programs are growing ever more aggressive, and now talking about intrusive modification of pits, which can only take place at Los Alamos, specifically at the plutonium facility for PF-4, which next door, the nuclear facility will

613-1 cont'd

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be located.

So, this whole business about the nuclear facility is to aid and abet future life extension programs.

Now, if I'm going to try to quit, I want to eat dinner, I bet you there's a lot of other folks. But, again, the historic trend of pit production is on a big glide path down, and that's a good thing. And I think it's going to hold that way, and because of that, there is no real need for the nuclear facility.

Now, tomorrow, I will expand or begin to talk about what I regard as the other legal vulnerability of this document, and that being that it really doesn't offer a true spectrum of alternatives, and that gets to the heart of NEPA.

I believe that government is required as a matter of federal law, to give, you know, a genuine range of reasonable alternatives, and I don't believe that this document does it. But that's for another night. (Applause.)

MR. MacALLISTER: Thank you. Is there someone else who would like to make a follow-up comment, or someone who hasn't commented? Sir.

UNIDENTIFIED SPEAKER: No, I will not give

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my name. The first time I spoke, I did not give my real name. I refuse to dignify this illegal undemocratic process with my name. And if this was a real legal hearing with a force of law, it would be illegal for me to stand here and falsify my name. The fact that there is no judge, there is no legal authority here, except for Santa Clara Pueblo, should speak volumes about the unjustness of this process.

So, the next time you go to a hearing, perhaps tomorrow in Santa Fe, you can say your name is Mickey Mouse, because this is a Mickey Mouse process.

MR. MacALLISTER: Marian, you also wanted to finish?

MS. MARIAN NARANJO: I just wanted to finish, where I left off.

At this time, I know of no emergency evacuation plan for the surrounding communities. Does that mean in case of an accident or radiological release, we shelter in place? Are we then, or are we already stamped as collateral damage, even though the risks of building this nuclear facility have been clearly stated and identified?

Are there agreements for compensation and healthcare for generations to come?

639-1

623-3 cont'd

639-1 No response necessary.

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This proposed action by the NNSA is not a pleasant thought for me, or for other native and indigenous people.

We are not blind to the actions taking place globally to other native and indigenous people in the name of profit.

History has already been written of the manners of this government to the seizing of native lands and natural resources for profit for a few.

As a member to an Accord Tribe, I respect the government-to-government relationship Santa Clara Pueblo has with DOE. Although, I have seen actual proof of consultation in other EIS's, such as the greater-than-class, GTCC Draft EIS, but I did not see this in the CMRR EIS or the CMRR SEIS. I feel this document is incomplete without it.

623-4 cont'd

Not only am I a member of Kha'Po Owingeh, but I am a citizen of the State of New Mexico, and I am a citizen of the United States of America. I do not condone the use of military might to take natural resources from others for my livelihood or my economic survival, or contaminating land, air and water with hazardous nuclear waste and toxic materials for profit or national security.

HOPE's mission is that we embrace the

Response side of this page intentionally left blank.

Pueblo teachings of love, respect and care, working together improving the life ways of our people in order to provide an enhanced and sustainable environment for generations to come.

Having said that, I stand here today to exercise my rights in the NEPA process to oppose the construction and operations of this CMRR Nuclear Facility in our sacred mountain, as a matter of environmental justice, in protecting the health and welfare and cultural survival of the surrounding Pueblo communities, and also for the reasons and questions I have stated before.

Again, thank you for this opportunity. Kunda, goodbye.

OTHER SPEAKERS FROM THE FLOOR: Just a real quick, I wanted to let you guys know something. A couple of weeks I did presentation at the local high school here, the Española Valley High School, and you would think that being so close to Los Alamos that people would be -- would know about Los Alamos' activities. And right now what I would like to request -- or I'd like to say that there's not enough education to students about Los Alamos and the possible negative health effects that brings, because it does bring negative health effects.

623-5

623-5 NNSA notes the commentor's opposition to the CMRR-NF project. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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And that when I went in to do this presentation, to speak to these kids, you know, 90 to 95 percent of them had no idea of what was going on. They are really oblivious to the fact that they really are a huge part of nuclear industry. Thank you. Thank you. (Applause.)

MR. MacALLISTER: Is there anybody who would like to make one final comment?

MS. SHEILA COOPER: I have a question, and I'll come to the microphone.

MR. MacALLISTER: If you would, please. I'm not sure that we will have an answer, but we will certainly put the question on the record.

MS. SHEILA COOPER: I will give my name. It's Sheila Cooper. And I guess I'm really struck at this meeting of how strong the feelings are about Los Alamos, and how much pain and hurt was expressed here tonight, and I wonder if Los Alamos couldn't do some sort of outreach separate and apart from this process, but some sort of outreach to the community, so that there's not this us versus them idea.

627-3

And there's some understanding of the impacts that Los Alamos has had on some communities here. And, you know, I realize you guys may not be the ones to ask, but that question is coming up in my

627-3 NNSA acknowledges the commentor's statement. LANL is involved in many facets of the community. Information regarding outreach efforts at LANL can be found at http://www.lanl.gov/.

mind. I'm really -- I mean, I guess I knew it, but I hadn't really heard it and felt it quite as strongly how feelings are right on the surface, and they are visceral.

And, you know, Los Alamos is going to be there, and we have talked a lot about the bad, but it's not all bad, and if there could be some sort of outreach, I think it would be mutually beneficial.

MR. TEGTMEIER Thank you.

MR. MacALLISTER: Thank you. Is there anybody else who would like to make a last comment? All right. Well, thank you very much for attending this meeting. These meetings are a critical part of our democracy, and I appreciate your candor and your energy and your input.

So, again, we will have another meeting tomorrow at Santa Fe Community College, at 6401 Richard Avenue. And thank you very much. The meeting is now officially closed. Thank you.

(The following is a statement taken by the court reporter in a private session.)

MR. DAVID NORRIS: I spent the second, third year of my life living in a trailer court on DP Road in Los Alamos. And I have been sterile all my life. My younger brother was conceived and born

Response side of this page intentionally left blank.

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there, and he died at three from cancer. My next youngest brother was conceived and born while my other brother was being treated for cancer, and he's had skin problems his whole life. And as it turns out, I guess there was a wartime dump in that trailer park, before the trailer park. And I have heard that other people have been compensated, but very, very little on it. I'd like to know more.

(The hearing adjourned at 9:21 p.m.)

640-1

640-1 Chapter 3, Section 3.11.4, Health Effects Studies, of the *CMRR-NF SEIS* includes a summary of a number of epidemiological studies that have been conducted in the LANL area, as well as a summary of cancer incidence and mortality figures for the Los Alamos region as derived from data from the National Cancer Institute. During the period 2003 through 2007, the annual cancer death rate for Los Alamos County was smaller than that for the state of New Mexico as a whole, and for the entire United States. The cancer incidence rates, however, of melanoma of the skin, prostate cancer, thyroid cancer, and female breast cancer were elevated in Los Alamos County with respect to state averages, while cancers of the lung, colon, and rectum occurred at rates below the state averages.

STATE OF NEW MEXICO
ss.
COUNTY OF BERNALILLO

REPORTER'S CERTIFICATE

I, BEVERLY ANN SCHLEIMER, New Mexico Certified Court Reporter, DO HEREBY CERTIFY that I did report in stenographic shorthand the proceedings set forth herein, and the foregoing is a true and correct transcript of the proceedings.

In testimony whereof, I have hereunto set my hand on this 8th day of June, 2011.

____
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Comments from the Santa Fe, New Mexico Public Hearing (May 26, 2011)

PUBLIC HEARING
DRAFT CMRR SEIS
CMRR AT TECHNICAL AREA 55 (LOS ALAMOS)
May 26, 2011
5:30 p.m.
Santa Fe Community College
6401 Richards Avenue
Main Building, Jemez Rooms
Santa Fe, New Mexico

Bruce MacAllister, JD, Public Hearing Facilitator
Mr. John Tegtmeier, CMRR SEIS Document Manager

REPORTED BY: Sally Peters, RPR, NM CCR 57
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Albuquerque, New Mexico 87102

(1127K) SP/MH

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MR. MacALLISTER: Welcome everyone. My name is Bruce MacAllister. I will be your facilitator.

And before I introduce myself, let me start by explaining where the emergency exits and the facilities are. The primary exits for this room are the two doorways in the back. If there is an emergency and we need to vacate the building quickly, there are double doors, two sets of double doors that exit immediately onto a patio right off this alcove. If for any reason those are blocked, the exit through the main cafeteria area of the community college will also be available. If for any reason you have to use one of these exits up here, you will exit through the door and make an immediate right. You go down the hallway to your right, and you will exit again to the right into the hallway adjacent to the cafeteria.

So as far as drinking fountains, there are drinking fountains out the rear doorway and to the left on the wall. As you turn left and look left, there will be drinking fountains. Restroom facilities are multiple being a college campus, but the closest ones, if you walk left past the food services area that right now is closed and screened

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off, there are men's and ladies' facilities just up that hallway to the left. Alternatively there are restrooms at the back end of the cafeteria, and there are restrooms further down that hallway.

Again, as I mentioned, my name is Bruce MacAllister. I am a self-employed small business person doing mediation, community facilitation work, and organizational development work through a small business called Business Excellence Solutions.

I am not affiliated with Los Alamos National Laboratory other than having a contract to provide facilitation services. I'm not employed by the Department of Energy, by the NNSA, or by any of the major contractors to the Department of Energy, other than as I mentioned, for purposes of my facilitation contract.

Also our host tonight, I would like to thank the Santa Fe Community College, but again, the community college is not involved or taking any official position one way or another with respect to the issue that we are here to discuss.

The content of tonight's meeting is the Los Alamos National Laboratory Chemical and Metallurgy Research Replacement Facility. It's the nuclear facility portion of that project that is

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under review. The comments that we are soliciting tonight have to do with the Supplemental Environmental Impact Statement.

This public hearing is commenced under the laws pertinent to the Environmental Impact Statement.

Just a reminder, if you intend to speak tonight, there will be sign-in cards at the table just out your door to the left. They look like this. These are the draft CMRR-NF SEIS comment cards. You will be given a number, and as soon as we roll into the comment period, we will be taking your comments in the order of the sign-in, in the order in which you signed in.

If there are elected officials from federal, state, local, or tribal entities here, I will be asking them for comments first, if there are people here that choose to comment. And before we have the comments, we will have about a 15 minute presentation.

I would like to introduce at this point the document manager for the project, John Tegtmeier. John is the official hearing representative for the meeting. Sometimes it's been my impression in the previous meetings, that because

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I am facilitating, people believe I am the person they need to speak with. Let me assure you there are times when I'm not even listening, because I am focused on running the logistics of the meeting. So the official that you need to be addressing comments to is Mr. Tegtmeier.

The comments will be transcribed, and I will be going through the ground rules for giving comments in a few minutes.

Again the focus for this hearing is on receiving comments relative to the Environmental Impact Statement. We are not here to debate or answer questions about larger questions of national nuclear policy. Those decisions are made by entities beyond those that are represented in this meeting. So we would request that you understand that the comments that are going to be most relevant to us will be those comments relating to the project at hand.

We will be timing the comment time to ensure that everybody has an opportunity to speak. Based on the number of people that have signed up so far, it looks like we will be fine allowing people up to five minutes to speak. I will explain more ground rules about that after the presentation.

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May I remind you, there is a poster session that's going on outside. You are free at any time, if a question surfaces that you want technical information concerning, to return to the poster area, and there will be subject matter experts in that area available to answer technical questions relating to the project. The purpose of this session is not a question and answer session.

This session is to hear. The officials are here to listen to your comments and to receive those comments officially into a transcribed record.

If we run out of time tonight, there are many other avenues to give comments. This is the last of the officially scheduled formal hearings, but there are nine other avenues for you to give comments. There is a kiosk set up at the back, looking at this direction as you exit the doorway, the back left-hand side of the alcove out there, set up with work stations to enter into a computer your comments, to record comments directly in the system. There is also a court reporter out there available to take your transcribed statement. You can e-mail, you can mail, you can fax, and there is a toll free phone line.

Now, unlike the meeting, the recorded

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session here which has time limits, all of these other options are available without a time limit. So those will be available to you.

As I mentioned earlier, I will as soon as we have finished with the presentation, revisit some of the other ground rules before opening up the session for comments. But at this point, I would like to introduce Mr. John Tegtmeier who is the document custodian, the document manager for the project that we are here to discuss. Thank you.

MR. TEGTMEIER: Thank you, Bruce.

Good evening. I appreciate everyone coming. It's very important that we obtain public input on the draft document that we have out for review. My name is John Tegtmeier, as Bruce mentioned. I work for the National Nuclear Security Administration, Los Alamos Site Office. I am the document manager, and I have many responsibilities, so I would like to share with you very briefly with that.

I have a responsibility for the preparation of the document, that the document meets the requirements of the National Environmental Policy Act from the Council of Environmental Quality, as well as the DOE implementing

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requirements that are also federal law, but I believe my most important role is to encourage and facilitate public participation in this process. It's very important to me, and I take that very seriously.

So I would like to start with a little bit of background on the environmental impact background of this project. Back in 2003, an Environmental Impact Statement was prepared for the project, and it was followed by a Record of Decision in February of 2004. In that decision, an approval was made for a two building concept sited at Technical Area 55 at Los Alamos that's adjacent to the existing plutonium facility.

The first building is complete. That's the Radiological/Laboratory/Utility/Office Building. It is currently being outfitted, No. 1, for the office space and training facilities for the workers, and the second piece is the outfitting of the laboratory space for the radiological laboratory in that facility, and those laboratories deal with very small quantities of material. So that's happening right now.

The second building is in design, and that's the nuclear facility that the main focus of

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this Environmental Impact Statement Supplement is about, but there is more that I will get into in a minute.

Since the time that the Environmental Impact Statement was prepared, there has been additional geological mapping at the site, and some information on that is available at some of the poster sessions out in the hallway. So basically they exposed some of the strata on the proposed construction site, and they did some crack mapping. They were looking for the presence of faults. They also did borehole investigations, and so they have a better idea now of the geologic conditions directly underlying the site.

In addition in 2007, a final or an update to the probabilistic seismic hazard analysis at the laboratory, which focused primarily on the area of Technical Area 55 and Technical Area 3, was finalized. One of the outcomes of that analysis was that the ground motions, the ground accelerations associated with a postulated earthquake that might impact the site that would form the basis for the design increased those ground accelerations.

So both of those factors combined were looked at as the design became more mature, and that

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identified the fact that certain aspects of the building would require significant upgrading as the design progressed to resist those earthquake forces and potential other interactions with that geologic site.

So that work was analyzed, and last summer the laboratory prepared a supplement analysis, and that's part of the NEPA requirements, to determine whether or not enough change had been identified such that a Supplemental Environmental Impact Statement should be prepared. The outcome of that, even though that supplement analysis was not formally decided upon, the NNSA did decide to pursue the Supplemental Environmental Impact Statement. That's the draft that's currently out for public review.

We had a Notice of Intent that was issued on October 1st in the Federal Register. That was a Notice of Intent to prepare the Supplemental Environmental Impact Statement. As part of that, we had two public scoping meetings in White Rock and Pojoaque in early to mid October last year.

So taking that information and some other initial internal scoping within the NNSA, we started preparation of the Supplemental Environmental Impact

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Statement, looking at the environmental impacts of those changes primarily to the construction of the facility, but also the operations that I will get into here. There are some additional types of analysis required due to new requirements in 2003.

So some of the new analyses you will see in the document are analysis of greenhouse gas emissions. That's from construction operations as well as operations in the facility long-term. The intentional destructive acts, there is a new requirement that we do that, so we have an analysis that we perform for those things like terrorist incidents that you might see inside the facility and the impacts of those. And we also updated the analyses, as I said, for construction, for operations, and those are operations for the existing Chemical and Metallurgy Research Building that was completed in 1952.

We also did the operations impacts for the RLUOB facility that I had just mentioned, because we have very good data on that now that the design is complete. We also did operations impacts associated with the proposed new nuclear facility. We also updated the accident analyses for the existing CMR Building. That's based on a documented safety

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analysis that our office approved last summer, as well as the preliminary documented safety analysis, the most recent version of that that the project prepared last summer and also approved by our office.

The last thing that we updated is the impacts, human health impacts, primarily radiological impacts, and there were a few things that were involved in that. One of them, there were some modeling changes in the modeling software that's used. And we also took advantage of the very latest census data available at the time. Now, all that final documentation or the data for the census has still not been received, but that will be folded in as it becomes available for the final EIS, Supplemental EIS.

So briefly the alternatives we looked at, there is a No Action Alternative, and the No Action Alternative is in the sense that that no action means no change to the Record of Decision back in 2004, so we would not change our direction in terms of the decisions made based on the past NEPA analysis.

We also have a modified CMRR nuclear facility alternative, and that's a facility that

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incorporates the additional strengthening of the facility to resist the earthquake forces at the facility. And one thing that we did identify since the time of the scoping meeting, the project team, as the design developed a little further, they identified a possibility that we may be able to build the same facility, the same modified nuclear facility that was described in the Notice of Intent, which we call now the deep excavation option. We also identified the possibility of a shallow excavation option, which is basically the same facility built on the same piece of ground but built higher up in the strata so as to avoid the one layer that we were more concerned about beneath the facility site.

The last alternative we looked at is the No Construction Alternative, and that's to continue to use the existing CMR Building as long as we can without significant upgrades at a reduced amount of programmatic operations because of its vulnerability to seismic, so that's the No Construction Alternative that we analyzed.

So a little bit more about the process of where we are now as far as the public and stakeholder participation. We posted the Draft

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Supplemental Environmental Impact Statement on the NNSA website on April 22nd. That was followed the following Friday by the Environmental Protection Agency publishing the Notice of Availability in the Federal Register, and that publication in the Federal Register started the formal 45 day comment review period.

Subsequent to that, based on input and requests from members of the public, the NNSA decided on May 6th, to extend that comment period by 15 days, so the current comment period closes on June 28th, 2011.

Bruce mentioned the public hearings. This is the last of the four scheduled public hearings on the project in the Supplemental Environmental Impact Statement. We had meetings in Albuquerque on Monday evening, Los Alamos on Tuesday evening, Española yesterday evening, and then tonight is the final public hearing.

Bruce mentioned a number of ways to provide comments. There is no limit on the number of times you might comment. You can use any of the avenues. We don't want you to make one set. That doesn't close the door for you. Feel free, to the end of the comment period, to make comments using

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any of the means that are available to do that, and I encourage that type of input from the concerned people and to forward the draft document comments to us.

With that I would like to turn it over to Bruce, and he will go over the final ground rules before we get started. Thank you.

MR. MacALLISTER: Thank you.

Before we start, I noticed there are a few video cameras rolling, and I just want to mention that those are not cameras that are operated officially by the Department of Energy or as an adjunct to this meeting. So if anybody objects to being videotaped, you will need to take that up directly with the videographer.

We have a pretty good number of folks who want to comment tonight, and the process has been designed with a preference to make sure that everybody has an opportunity to speak. Anybody who wants to speak in the allotted time we try to accommodate. The meeting will run until 9:00, and we will try to manage the time within that time limit to ensure that everybody who has registered has a chance to speak. Does anybody have an objection to the process trying to enable that

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everybody who has signed up has a chance to speak?

You object to that?

MS. JONI ARENDS: Joni Arends with Concerned Citizens for Nuclear Safety. We were one of the signers on to the e-mail that requested additional time if there were enough people, and Mr. Tegtmeier said that if possible we would stay until 10:00. So I don't know the amount of time or the number of people that have registered to speak. It would be interesting to know, because there has been a difference of the amount of time. In Albuquerque first there was five minutes. Then it got changed to three. In Los Alamos there was seven minutes, and last night there was five minutes. So I would like to understand how many minutes are currently scheduled for people to speak.

MR. MacALLISTER: I can answer that question. I can't answer how many are registered, because we continue to take people as they show up. It looks like, based on our best estimate -- and once we make this decision, we stick to it -- that we will be able to provide the five minute time limits.

Is there anybody who has any objection to me treating each speaker equally with respect to the

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amount of time? All right. Finally is there anybody who believes they are entitled to more time than the allotted five minutes?

MR. DOUG DORAN: We would have the right to yield the balance of the time. If we didn't take the full amount of time, we could yield it to someone else?

MR. MacALLISTER: No. You have the right to yield your block of time. We can't get into measuring fractions of minutes for time. If we run ahead, that time goes into the pool, at the end of meeting, wherein we take open questions, open comments.

If on the other hand somebody runs out of time and the audience would like to hear more of them and somebody chooses to yield their time slot to that speaker, when I reach that person's card, and I call them, they can tell me I yield my position to a particular speaker. I will move that person's card who yielded to the back of the stack, and if there is time allowed, we will take that comment at the end before we conclude the meeting. Right now it looks like we will have plenty of time.

Another question from Joni Arends.

MS. ARENDS: Yes. I have a due process

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question. At the three other hearings there was an opportunity for a second round.

MR. MacALLISTER: Yes.

MS. ARENDS: Is there an opportunity for a second round this evening?

MR. MacALLISTER: As with all the other hearings, the second round is contingent upon there being available time. At every other meeting, even at last night's meeting where there were more people signed up, we did have time for some follow-up questions. So I anticipate that as long as there is time available, that we will have second round.

Now, this facility has limits on how late we can remain in this facility. I will point out that this is the fourth meeting. My understanding is that the due process requirements for meetings technically have been fulfilled. I am looking at the document manager for verification of that. He is, just for the record, indicating that that's the case.

I have no doubt, as soon as we roll into this, that there will be ample opportunity for follow-up comments. Okay.

MS. ARENDS: I reserve time to object during the process. Thank you.

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MR. MacALLISTER: You can use your time, your allotted time for anything you want.

As far as the ground rules going on, please wait until your scheduled time to provide comments. Heckling from the audience, there is absolutely zero tolerance for it. We don't want any speaker of any philosophy, any position they want to take feeling remotely intimidated in terms of their ability to give their honest opinion to the document manager. So please reserve your applause, and please refrain from making comments during people's presentations.

It's important that we don't interrupt presentations with shouting or comments, because this is a transcribed hearing and the court reporter has to hear the speaker.

Sir, you had a question.

MR. ERWIN JULIAN RIVERA: (Comments in Spanish.)

MR. MacALLISTER: As far as a translator, John, we don't have that capacity at tonight's meeting.

MR. RIVERA: It's okay. I do.

MR. MacALLISTER: I will be calling you by name. So in the first round it's a little less

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critical; however, I am famous for mispronouncing some people's names. So it's helpful when you come to the mike to please confirm, yes, my name is Joe Jones, because I may have mispronounced your name. For the record, it will be helpful for us to make sure we have the right people in the right order.

Yes, sir.

MR. KEN LAING: Do you intend to remove people who refuse to stop speaking after their time by force?

MR. MacALLISTER: I am getting to that.

I am asking you all to abide by the time limits. There is not going to be anybody here -- I have no intention of arm wrestling with anybody at the mike. However, if we cannot maintain order and if people refuse to yield the floor following the ground rules of the meeting, I will put the meeting into recess, the court reporter will be instructed to stop taking the official transcription, and the mike will be cut off, and we will be in recess unless and until we can restore order and the next speaker is up to speak.

MR. LAING: So was last night's attempt to remove a speaker peculiar to that setting? We are not intending to do that again?

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MR. MacALLISTER: There was no attempt to remove a speaker. There was an attempt to get the speaker to yield the floor. I'm not going to argue about other -- I'm going through the ground rules for tonight. We have made some adjustments to make it clear that we intend to give everybody an equal opportunity to participate in the meeting.

Again, please keep your comments as civil as you can and finish your statement as early as possible.

Sir, you have a comment.

MR. KIRK OWENS: If somebody would like to give comments in other than English, since we can't accommodate anything else here, we can take comments in another language, and there is also an audio recording capability out here. If you leave them in Spanish or a native language, we will make every attempt to get them translated for the document.

MR. RIVERA: I don't mean to be argumentative, but we requested that in many hearings and to have the reports issued back -- based on the New Mexico Constitution, we are an official bilingual state, and we have yet to receive anything back in answer to our request. I appreciate your comment, but it's still not adequate

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for us, but I am multi-lingual.

MR. MacALLISTER: And again, if we cannot regain order of the meeting, we will be in recess. However, we will continue to take comments from people at the kiosk, and there will be an ultimate decision about whether to adjourn the meeting or to continue based on our ability to restore the structure of the meeting.

A final comment, a final request on my part is please silence your cell phones and anything else that might make noise at this time so that the speakers are not interrupted. And again, just as a reminder, I will be taking comments from any elected officials first, or representatives of those offices, at the outset of the hearing, and then I will be taking the next comments in order.

I believe we have at least one representative of an elected official here, Jennifer Catechis. Pardon me if I mispronounce.

MS. JENNIFER CATECHIS: It's close, very close. I am with Congressman Lujan.

MR. MacALLISTER: Thank you. And would you like to speak, ma'am?

MS. CATECHIS: No.

MR. MacALLISTER: Thank you. Thank you.

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Are there any other representatives or elected officials, representatives of offices that are from the elected officials' offices here present tonight? Are there any tribal officials present tonight? Any municipal or county? All right.

Then without further adieu, we will begin the process.

One last ground rule, to help you with the timing to abide by the five minute rule, you will see at your four minutes, at one minute out, our timekeeper will hold up a yellow card, so you will know that it's time to begin preparing to conclude your statement. When you see the red card, your time is up. If you don't wrap up in a timely manner with the red card, I will approach the podium and ask you to yield the floor. If at that time you don't yield the floor, I will instruct the court reporter to cease recording, and we will go off the record, and we will be officially in recess until such time as we get the podium back. Thank you.

Okay. Our first speaker -- I will be calling out the name of the first speaker. Then I will, as with the other meetings, call out the next person in line to speak so that that person can be getting ready.

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Our first speaker is Ray M. Baca and he will be followed by Danny Beavers.

MR. RAY M. BACA: Thank you very much. My name is Ray Baca. I am the executive director for the New Mexico Building Trades Council. In that capacity, I represent all of the construction labor unions here in the state of New Mexico. This includes approximately 800 construction and maintenance workers that are currently employed by the laboratory.

These are good-paying, family-sustaining jobs that unfortunately are not otherwise available in northern New Mexico to that degree. As most of you may already know, the construction industry in New Mexico, as it is in much of the country, is in a depressed state. The unemployment rate for construction workers is fully double and in many cases triple that of the average unemployed New Mexican. It is not uncommon for us to see unemployment rates of 27 to almost 30 percent in the various crafts that we represent.

This project, the CMR project, if and when it comes to be, would employ upwards of nearly 1,000 construction workers off and on over the course of a 10 to 12 year period. Obviously this would be a

701-1

701-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. The socioeconomics sections of the *CMRR-NF SEIS* present an analysis of the potential effect on the local labor market related to the different alternatives under consideration (see Chapter 4, Sections 4.2.9, 4.3.9, and 4.4.9). As discussed in the *CMRR-NF SEIS*, construction of a new CMRR-NF under the No Action Alternative or the Modified CMRR-NF Alternative would result in a requirement for a construction workforce that would be needed for up to 9 years. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for additional information.

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huge boost to the construction industry in New Mexico. It would be a huge boost to economic development and opportunity in northern New Mexico, but much more importantly, it would be a huge boost to those working construction families in New Mexico that are in dire straits.

With all due respect to those of you who are opposed to the project, we respectfully urge the laboratory and DOE and all the other powers that be to begin this project sooner than later. Thank you.

701-1 cont'd

MR. MacALLISTER: Thank you, sir.

Our next speaker is Danny Beavers and he will be followed by Jennifer Sequieira.

MR. DANNY BEAVERS: My name is Danny Beavers. I am a business representative for the United Association of Plumbers and Pipefitters. I am here today to speak in favor of the proposed project for a couple of reasons. Throughout my lifetime, there have been nuclear weapons, and I'm sure they will be around long after my life is over. In my opinion, they are and will continue to be necessary to assure the safety, freedom, and way of life of our country.

Next, the current facility was opened in the late '50s, early '60s, and has been in operation

702-1

702-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Special designs, operations, and procedural measures to protect workers and the public would be incorporated into the design and operation of the CMRR-NF. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for additional information.

for well over 50 years. Due to the fact that nuclear weapons are going to continue to be a reality, I would personally feel better knowing that that type of work is being done in a new state of the art facility as opposed to an antiquated facility.

Lastly is the economic impact of a project of this size, not only to northern New Mexico but the entire state of New Mexico, from vendors to suppliers, not to mention the estimated 1,000 construction workers that it is scheduled to employ over the course of the project. These are all good-paying jobs that include family health care and pensions. Therefore, I stand in favor of this project and respectfully request that it move forward without further delay. Thank you.

702-1 cont'd

MR. MacALLISTER: Thank you, sir.

Our next speaker is Jennifer Sequieira followed by Scott Kovac.

Jennifer Sequieira.

Scott Kovac.

MR. SCOTT KOVAC: Good evening. Thank you, everyone, for coming out this evening.

Members of the public who have spoken in support of this CMRR -- sorry. Members of the

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public who have spoken out in support of the CMRR nuclear facility who just left, have, for the most part, pointed to jobs that would --

(There was a buzzing sound from the mike.)

MR. MacALLISTER: See if that's better.

MR. KOVAC: My time is not starting yet.

All right. Members of the public who have spoken in support of the CMRR nuclear facility so far have pointed to the jobs that have been produced. Nuclear Watch New Mexico agrees that more jobs are sorely needed in northern New Mexico. We don't agree that the CMRR nuclear facility is the right way to get these jobs.

703-1 First of all, it is wrong to advocate nuclear weapons programs as a job program. Secondly, $6 billion for an expanded production complex for plutonium bomb triggers is an astronomical amount of money, but what do we really get in the way of added jobs? The answer is nothing. There is no net increase in permanent jobs. This is not just nuke watch saying this. This is the Supplemental EIS saying it also.

The CMRR-NF would not create additional jobs. It would simply relocate existing employees from an old facility to a new facility, one that

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703-1 NNSA notes the commentor's opposition to the CMRR-NF project. Refer to Section 2.1, Opposition to CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. The *CMRR-NF SEIS* presents the environmental impacts of construction and operation of the facility; one area of environmental impacts is socioeconomics, including jobs. As stated in the *CMRR-NF SEIS*, the number of jobs associated with this construction project (direct and indirect) is relatively small in comparison to the total labor force in the four-county region of influence. However, NNSA recognizes that the creation of any construction jobs during the current economic difficulties would have a positive effect on the construction industry in northern New Mexico as was stated by a number of commentors during the public comment period. See Section 2.7, Economic Impacts, of this CRD for additional information.

would cost around $10,000 a square foot to build. To quote the summary of the Supplemental EIS, approximately 550 workers would be at the CMRR facility. They would come from the old CMR Building and other facilities at LANL, so the facility would not increase employment or change socioeconomic conditions in the region. I will say that last line again -- so the facility would not increase employment or change socioeconomic conditions in the region.

What the $6 billion approximately CMRR project would do is help reserve the socioeconomic status quo for Los Alamos County, which is already the sixth richest county in the United States and is tied for the lowest unemployment rate in the United States. This is all while public school teachers are being laid off in neighboring Rio Arriba County and in the majority of states across the country.

The nuclear facility does create additional construction jobs, but these are limited to last only a finite period of time. The SEIS states that there will be an average of only 420 construction jobs over nine years, with a peak of 790 jobs. The SEIS further states construction employment would represent less than one percent of

703-1 cont'd

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the regional workforce and would have little socioeconomic effect.

In short, it's remarkable how little $6 billion buys for northern New Mexico. Let's look at the math. For the sake of discussion, let's assume that the average construction worker makes 40 bucks an hour for 2,000 hours during an average work year. With an average of 420 construction workers over nine years, that would be a payroll of a little over $300 million or just five percent of the total project costs. This is less than has already been spent so far for the design alone of the CMRR facility. Design costs are now at $500 million and climbing, and have we seen any socioeconomic gain from that? Has anybody noticed?

703-1 cont'd

Nuclear Watch New Mexico argues that far more jobs could be created than through almost any federal effort over the CMRR nuclear facility. Its limited positive socioeconomic impacts will stay mostly in Los Alamos County and will hardly be noticed in the rest of northern New Mexico. Only crumbs will roll off the hill to the rest of us as usual.

To invoke a cliche: Why can't we have clean, green jobs instead of mean jobs? A $6

703-2

703-2 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on major Federal programs (for example, education) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for additional information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF.

Refer to Section 2.5, Cleanup and Waste Management, of this CRD for information about LANL environmental remediation activities.

billion plutonium investment will lock Los Alamos' future into the hopefully shrinking business of nuclear weapons production and research and will be a loser in the long run for job production. Full clean-up of LANL's radioactive waste dump is estimated to cost $32 billion, but the lab opposes that form of clean-up because it's far too expensive.

This may be, but while protecting our environment in the Rio Grande, what a job producer comprehensive clean-up at the lab would be. Thank you.

703-2 cont'd

MR. MacALLISTER: Thank you. (Applause)

Actually that reminds me of one thing that I should have mentioned. If you have a written statement that you would like to submit to the court reporter to make sure that you have got word for word what you wanted to say in the record, that's more than welcome as well. All right.

Our next speaker will be Robert Gilkeson followed by Dave McCoy.

MR. ROBERT H. GILKESON: Thank you. My name is Robert Gilkeson. I am a registered geologist with over 40 years of experience with activities in the earth sciences, including teaching

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at the University of Illinois, research and ground water contamination issues across the United States and especially at Los Alamos National Laboratory, research and exploration for ground water resources, and research in seismic geophysics.

From 1988 to 1999, I was a technical consultant at Los Alamos National Laboratory on issues of environmental contamination, and I was the lead consultant for a period of a few years for installation of the large network of monitoring wells in the regional aquifer below and away from the laboratory.

In 2009, I wrote a paper with Joni Arends, the executive director of Concerned Citizens for Nuclear Safety about the large number of deficiencies in the LANL 2007 Probabilistic Site Wide Seismic Hazard Analysis Report. There was a mouthful. And also in the geotechnical report, the 2005 geotechnical report for the geotechnical investigation of the seismic hazard at the proposed site for the CMRR facility in Technical Area 55.

Joni Arends and I took that paper to a meeting with the Defense Nuclear Facilities Safety Board in Washington, DC on May 23rd of 2009. And that paper, currently Joni and I are updating the

704-1

704-1 The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake.

Subsequent to the original proposal of the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazard analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazard analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into the structural requirements necessary for constructing the proposed Modified CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

paper for current events, and that will be provided to this hearing by the end of the public comment period.

My presentation today is the findings and conclusions in a paper written by scientists at the Los Alamos National Laboratory with their studies to identify that there has been active earthquake with surface rupture at least three times during the period of the Holocene. And the Holocene covers earth history going back to 10,000 years from the present. It's a very excellent paper, and it was published in the June 2009 issue of a journal named "Geosphere."

The name of the paper -- if I can find it here -- "Fault interaction and along-strike variation in throw in the Pajarito fault system, Rio Grande rift, New Mexico." I have a handout which will be out where the CCNS materials are, the table of CCNS materials, and there is a map on the back of that handout that shows the great complexity of the Pajarito fault system. It's a network of faults that extends from north of Los Alamos to south of Los Alamos to approximately Cochiti Pueblo. The fault is over a total distance of around 48 kilometers or 29 miles.

704-1 cont'd

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I'm going to read some of the findings in the report by the LANL scientists. From the abstract, "The seismically active Pajarito fault system of northern New Mexico, United States, is a complex zone of deformation made up of many laterally discontinuous faults and associated folds and fractures that interact in ways that have important implications for seismic hazards at Los Alamos National Laboratory," and I would say including Technical Area 55, the proposed site for the CMRR facility.

From the conclusion section of their report, I'm going to present the bulleted findings: New paleoseismic data show three Holocene surface rupturing earthquakes, one ground surface rupturing event, 1,400 years ago on the Pajarito fault; a second ground surface rupturing event from 5,200 to 2,500 years ago. That's the range of time.

704-1 cont'd

MR. MacALLISTER: Sir, your time is up to take a closing statement.

MR. GILKESON: That was five minutes already?

VOICE FROM THE FLOOR: Can I yield?

MR. MacALLISTER: No, you can't yield now. You can yield when it's your turn.

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VOICE FROM THE FLOOR: Well, I can pull my card out right now.

MR. MacALLISTER: It doesn't work that way, because others signed up hoping to get in here.

MR. GILKESON: Let's hold to the rules. I will probably get a chance later to finish this.

MR. MacALLISTER: Thank you, sir.

MR. GILKESON: There is a handout of this report at the table with CCNS materials. Thank you.

MR. MacALLISTER: Thank you, sir.

(Applause)

Our next speaker is Dave McCoy followed by Bob Walsh.

MR. DAVE McCOY: Dave McCoy, director of Citizen Action.

As an attorney, I want to address some of the legal issues. First I want to address the raft. If the raft won't float, we are going to sink and all be on the nuclear brink.

Anyhow, to hold DOE accountable to protect public health and safety, Congress should introduce legislation for the public to bring a citizen suit against the DOE for violation of the DOE Orders. DOE Orders sound good but are not rigorously enforced by DOE.

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In the case of the SEIS, there is no safety analysis report that has been issued as is required to be performed, quote, at the earliest practicable point in conceptual or preliminary design for which we have spent $500 million already. Adequate protection of the public and workers is not assured because the chosen site above volcanic ash is a seismic formula for disaster.

Deactivation, decommissioning, decontamination at end of life are not considered in the SEIS proposed 50 years of operation. Waste disposal operations are not considered in the SEIS and the liquid radioactive waste facility is at the end of its operational lifetime.

The controlling statutes are DOE Order 420.1 and DOE Guidance 420.1-2 which requires structures, systems, components at DOE facilities be designed and constructed to withstand the effects of natural phenomena and hazards.

Now, you can't very well know what the health impacts are going to be where the full seismic hazards are not known. The choice of this location as a site is extremely poor. Other requirements are found in DOE Order 5480.28, and they are supposed to provide for safety work places,

705-1

705-1 NNSA has developed the appropriate level of safety documentation for this stage of CMRR-NF design, and this safety documentation is used in designing building safety features. Because of security concerns, the safety documents are not made available to the public.

DD&D impacts are discussed in Chapter 4, Section 4.5, of the *CMRR-NF SEIS*. For purposes of analysis, only disposition of the entire CMR Building is addressed in detail because activities associated with this option would have the greatest potential environmental consequences, including generation of the largest amount of radioactive wastes (see Section 4.5.1). DD&D procedures for dispositioning the CMR Building would be common actions across all of the alternatives analyzed in the *CMRR-NF SEIS.* DD&D of the CMRR-NF at the end of its useful life is also addressed, although it is noted that impacts would depend on the disposition decision taken at the time, which could range from reuse to DD&D of the entire CMRR-NF (see Sections 4.5.2 and 4.5.3).

Waste management and pollution prevention is addressed for construction and operations for all three alternatives in Chapter 4, Sections 4.2.12, 4.3.12, and 4.4.12, of the *CMRR-NF SEIS.* As described in the 2008 *LANL SWEIS* (DOE 2008a) and in annual *LANL SWEIS* yearbooks issued since its publication (LANL 2010a, 2011d), RLWTF processes liquid radioactive wastes and meets current discharge standards. The 2008 *LANL SWEIS* addresses alternatives for upgrades to RLWTF (DOE 2008a).

The CMRR-NF is designed to be in compliance with DOE requirements for nuclear facilities, including projected seismic event response performance and nuclear safety-basis requirements based on new site geologic information, fire protection, and security requirements. The accident analysis in Chapter 4, Sections 4.2.10.2, 4.3.10.2, and 4.4.10.2, and Appendix C of the *CMRR-NF SEIS*, is based on knowledge of potential natural or manmade hazards and the amount of radioactive material that would be available for release (material at risk) to estimate potential exposures in an accident.

See the response to Comment 705-2 regarding seismic concerns.

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protect against property loss or damage, continued operation of essential facilities, and protecting public health, property, and the environment against exposure to hazardous materials.

Well, we don't know what the hazard is going to be there, so we don't know what the exposure might be in the event of an accident. In fact, we don't even know what a full accident can be there. They talk about a spill. Well, it could certainly be more than a spill of plutonium when they are talking about 13,200 pounds being stored in the same location and the possibility for ground rupture at the site.

705-1 cont'd

There is also Executive Order 12699. I'm not going to go through that, just cite it.

LANL is choosing to not know the hazard by doing poor quality work. In 1992, the SHB-1 borehole at TA-55 was drilled. The seismic profile from the borehole was published in Wong, et al. in 1995. LANL scientists knew from the velocity profile for this borehole that there were low shear velocities that greatly increased the seismic hazard at the TA-55 site for use of plutonium bomb factory.

Rather than recognize the problem, LANL low-balled the cost to Congress for the facility

705-2

705-2 The potential seismic hazards at LANL have been the subject of numerous studies performed in the past 30 years. Additional information about seismic and other geologic issues has been provided in Section 2.6, Seismic and Geologic Concerns, of this CRD, and in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazards analyses of the LANL region were issued (LANL 2007, 2009), and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). (The 2009 update to the 2007 probabilistic seismic hazards analysis was not publicly available at the time the *Draft CMRR-NF SEIS* was prepared; however, it has subsequently been made available to the public and has been incorporated into the *Final CMRR-NF SEIS*.) The updated seismic hazards analyses indicated an increase in the expected ground motion for a design-basis earthquake and provided a better understanding of the ground motion and probable seismic behavior of various geological material layers occurring at LANL. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The results of this evaluation have been included in the design of the CMRR-NF, which is still under way and will continue to evolve. Refer to Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

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even though LANL knew the initial design was incorrect and not supported by their own information. Then there came a 1995 study: Seismic margins assessment of the plutonium processing facility at Los Alamos National Laboratory.

They said they couldn't meet the DOE Order 5480.28, and stated, "Results of this study indicate that seismically induced loads will be significantly greater than those for which the structures, systems, and components for the plutonium processing facility, PF-4, at Technical Area 55 were designed." The study was based on a value of .33 g, ground acceleration.

This 1995 report was made before the knowledge obtained in the May 2007 probabilistic seismic hazard analysis that indicated an increased acceleration value of .5 g. Even the .5 g acceleration is questionable and may be an underestimate, because selection of Kappa that was used was based on compromised data.

How many minutes do I have left?

THE TIMEKEEPER: You are just about done.

MR. McCOY: You have touted the 2007 report, the update. Well, let's look at Chapter 10 and what it says. Recalculate the hazard, conduct

705-2 cont'd

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additional detailed high precision mapping and displacement measurements, conduct paleoseismic trenching studies of Santa Clara Canyon, reevaluate the entire data schedule for the Rio Grande rift, conduct additional studies to better constrain Kappa. Kappa is a key parameter in assessing the hazard at LANL. Improvements in the network may be necessary to improve data quality. No improvement has been made.

So to sum up, you haven't done the work, you haven't done the studies, you are exposing the public to great risk, and you need to stop this project. Thank you. (Applause)

705-2 cont'd

MR. MacALLISTER: The next speaker is Bob Walsh followed by Jan Boyer.

MR. BOB WALSH: Please hold the timing flags up high and wiggle them so I will notice them.

THE TIMEKEEPER: Yes, sir.

MR. WALSH: Thank you.

My name is Bob Walsh. I am retired from a career which included many years of nuclear safety analysis.

About 20 years ago, I was the lead on a safety analysis for a proposed plutonium storage facility for Pantex in Texas. We found that

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aircraft accidents from overflights were a signature contributor to risk with possibly horrendous consequences.

Last November I commented on the potential scope of the SEIS, asking that they be sure to include the accident analysis and potential terrorist acts. In the draft SEIS, there was a response that says that the accident analyses present the impacts of a range of possible accidents, and that a classified appendix was prepared to address the impact of intentional destructive acts, including terrorism, but substantive details were not released to the public, because disclosure could be exploited by terrorists, which is reasonable.

706-1 In the appendix that actually evaluates accident impacts, Section C.3, it states that selection and evaluation of accidents was based on the "Nonreactor SAR Preparation Guide." In that guide, Section 3.4 states, external events will be analyzed if frequency of occurrence is estimated to exceed 10 to the minus six per year conservatively calculated, or 10 to the minus 7 per year realistically calculated. The analysis that substantiates frequency need only be referenced.

706-1 In response to similar comments, the text in the *Final CMRR-NF SEIS*, Appendix C, Section C.3.2, has been revised to more clearly reflect the consideration of an airplane crash into the CMRR-NF. The largest aircraft that is considered to have a conservative probability greater than 1 in 1 million per year of accidentally crashing into the CMRR-NF is a general aviation aircraft. References were added to support this conclusion, including the *DOE Standard: Accident Analysis for Aircraft Crash into Hazardous Facilities* (DOE 2006) and a site-specific technical evaluation of the potential for aircraft crashes (LANL 2011a).

In the draft SEIS, Chapter C.3.2 states, "The probability of an airplane crash during overflight is less than 10 to the minus six." There are two deficiencies in this paragraph. First we assume that they intended to say 10 to the minus six per year. Second, no analysis is referenced to support the statement.

706-1 cont'd

Having discovered two oversights upon examination of only one section suggests that this document has not been subjected to rigorous, independent review. The general public is neither technically qualified nor adequately funded to perform a comprehensive review. Consequently, I have four comments, all of which are in the form of requests.

One, please provide a reference to an analysis that substantiates the probability of an airplane crash during overflight does not exceed 10 to the minus six per year conservatively calculated.

706-1 cont'd

Second, please provide a rigorous independent review of this document by an independent professional organization in order to increase public confidence in the conclusions.

706-2

Third, please provide an unclassified overview of the classified appendix, omitting

706-3

706-2 NNSA and DOE engage their own technically qualified staff and subject matter experts to prepare the SEIS along with qualified contractors. The analyses include the evaluation of accidents and intentional destructive act impact analyses. NNSA does not intend to pursue an independent external review of the analysis in the *CMRR-NF SEIS.*

706-3 As indicated in Chapter 4, Section 4.2.10.3 of the *CMRR-NF SEIS*, substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA considered a range of possible terrorist or intentional destructive acts and performed a detailed analysis of selected scenarios. Selected scenarios provide a reasonable range of events, including those with the largest expected impacts. NNSA and DOE engage their own technically qualified staff and subject matter experts to prepare the SEIS along with qualified contractors. The analyses include the evaluation of accidents and intentional destructive act impact analyses. NNSA does not intend to pursue an independent external review of the analysis in the *CMRR-NF SEIS.*

NNSA has an extensive program related to preventing terrorist threats. This includes ongoing evaluations of facilities and security forces to prevent successful attacks. In evaluating intentional destructive acts, the probability of a given scenario occurring is not a factor in the analysis. Therefore, the programs and funding of other entities, such as the Transportation Security Administration is not a relevant factor. The intentional destructive acts appendix presents consequences projected to occur in the event of a successful attack. The results of these analyses will be reviewed and considered by NNSA in making its decision on the CMRR-NF and are shared, as appropriate, with senior Administration officials and Congress.

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details but including at least answers to the following questions: First, does the appendix include consideration of attacks using aircraft? Second, in determining risk from terrorist attacks, does the appendix assume continued funding for government agencies other than NNSA, such as the Transportation Security Administration? Third, does the appendix estimate the consequence of a successful terrorist attack? If so, have these potential consequences been brought to the attention of the president and congress for consideration in decisions on nuclear weapons policy.

706-3 cont'd

And then the fourth request, please provide a rigorous independent review of the classified appendix by an independent professional organization with appropriate clearances, and include in this environmental impact statement an unclassified summary of that assessment. Please include the identity of the organization, and the amount budgeted for the review as an insurance that the review is independent and thorough. Thank you.

706-2 cont'd

(Applause)

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MR. MacALLISTER: Our next speaker will be Jan Boyer, followed by Charles Cole.

MS. BOYER: My name is Jan Boyer, and I'm very concerned about this facility and request that an environmental assessment be done at this time because of the magnitude of the changes since the beginning of the planning around that.

I'm also speaking because I keep remembering a talk that Winona LaDuke gave one time, and she said, You know, when my children make a mess, they can't make another mess until they clean up the first mess.

I wish that would be considered in issues like this, because to me, there is an awful lot of toxicity that could be cleaned up before we make more messes. So I'm pretty concerned about that.

The other thing is, I have a master's degree in clinical psychology, so I'm fascinated by how people use themselves and their skills. And one of the things I know is that scientists do really good science. Thank goodness. I really have a lot of respect for the way scientists do science. The only problem is that in human capability, the weakness of scientists is in noticing the implications of their actions. That's the weakest link in the way a scientist thinks. What are

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707-3

707-1 NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations. Refer to Section 2.2, NEPA Process, of this CRD for more information.

707-2 DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

707-3 The danger of plutonium has been recognized since its first large-scale production in 1945. The awareness and knowledge of plutonium toxicity has resulted in DOE using special designs, operations, and procedural measures to protect workers and the public; such safety features and controls would be incorporated into the design and operation of the CMRR-NF. Chapter 4, Sections 4.10, 4.3.10, and 4.4.10, of the *CMRR-NF SEIS* present the potential human health impacts of the proposed alternatives.

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the long-term effects? What are the implications?

So when I read that this is going to house six tons of plutonium, I can't believe that. I keep thinking, gee, I must have made a mistake in reading that, but I think I read that in a few places. Isn't plutonium one of those things that has a half life of something like 108,000 years? I can't imagine having this much toxicity.

There are a number of authorities speaking out these days from the United States and other countries, and they're saying, you know, there are so many toxins in our environment that people cannot thrive. Even on the news hour, they've had a primary medical researcher from Harvard and she said, The issue with autism is the carcinogenic substances, the endocrine disrupters and all of the toxins. A child can no longer thrive in the United States. That's kind of daunting to me because I'm one of the kinds of people who does think about the long-term implications.

707-3 cont'd

So if anybody wants to party with six tons of plutonium, I think that deserves a very serious diagnosis.

Please don't do this. This is just too bizarre.

Thank you.

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(Applause.)

MR. MacALLISTER: Thank you, ma'am.

Our next speaker is Charles Cole, followed by Bridjette Kennedy.

MR. COLE: My name is Charles Cole. I'm a resident of Santa Fe, and I was the coordinator for the Faith Conference of Nuclear Weapons, which was held here in Santa Fe in 2010. I'm speaking as a member of the United Methodist Church and as director of the General Board of Church and Society of the Church.

708-1

The SEIS declares that pit production does not take place at the CMR Building, and it will not take place in any Chemistry and Metallurgy Research Replacement facility. But the SEIS also states, quote: "All nuclear analytical chemistry, AC, and materials characterization, MC, will be housed in the Hazard Category 2 nuclear laboratory building," unquote, part of the proposed CMR nuclear facility. And, quote, "AC and MC services support virtually all nuclear programs at LANL." It seems, then, that although pit production will not take place specifically in the proposed new facility, the CMRR-NF, this new facility will support pit production at LANL, which may reach a total of 80 pits per year.

This increased pit production is ostensibly

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708-1 The commentor is correct. The analytical chemistry and materials characterization capabilities that would be located in the CMRR-NF would support all nuclear programs at LANL, including pit production. Based on the ROD (73 FR 55833) for the 2008 *LANL SWEIS*, the current level of pit production is up to 20 pits per year.

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part of a Stockpile Stewardship Program whose implementation, according to the Nuclear Posture Review completed by the Obama administration last year, is, quote, "essential to facilitating reductions while sustaining deterrence under New START and beyond."

The Stockpile Stewardship Program, then, is to support reductions and to sustain deterrence. Let me address the deterrence issue. At our Faith Conference on Nuclear Weapons, Dr. Joseph Martz, J. Perry Fellow in National Security, Stanford University -- and I believe still related to LANL -- defined deterrence as, quote, "the ability to inflict unacceptable costs upon an adversary, such that that adversary is deterred from conducting an undesired act."

The United Methodist Church declared in a resolution passed at its 2008 General Conference, of which I was a member, that quote: "The doctrine of nuclear deterrence is morally corrupt and spiritually bankrupt," unquote.

Why is this so? The first reason is prudential. Nuclear deterrence is not an effective doctrine for the new age of global terrorism. In fact, the production of more plutonium simply makes more material available for terrorists to steal and use in making nuclear weapons.

708-2

708-2 NNSA notes the commentor's opposition to pit production and the policy of nuclear deterrence. Since the 1940's, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Since the end of the Cold War, DOE has changed site missions and activities consistent with changing national security policies that reflect the new national security posture, including maintaining a smaller nuclear weapons stockpile. However, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Therefore, along with its obligations to reduce its nuclear weapons stockpile and promote the nonproliferation of nuclear weapons to nonnuclear states the United States must also ensure that its nuclear weapons stockpile remains safe, secure, and reliable. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

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The second reason is moral. As the United Methodist resolution states, quote: "When used as instruments of deterrence, nuclear weapons hold innocent people hostage for political and military purposes." Among those held hostage are United States citizens, who must live in continual dread of nuclear war. And when even conventional military weapons take a heavy toll of civilians, the use of nuclear weapons threatens an even higher rate of civilian casualties.

I and others in the United Methodist Church, then, question both the wisdom and the morality of the new CMRR facility. To continue to produce more pits works against President Obama's goal of a nuclear-free future. Producing more plutonium pits as a way to facilitate reductions is inconsistent with the pursuit of this future.

708-2 cont'd

Our national security needs can be met within the $750 billion national defense budget for 2011 without increasing plutonium pit production. We have more than enough armaments to defend our country and product ourselves against purported terrorists.

We call on LANL to focus more on another of its goals, quote: "To reduce the global danger from weapons of mass destruction," unquote.

I would support the "No Action" alternative

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708-3 NNSA acknowledges the commentor's support for a No Action Alternative of no pit production. As stated in Chapter 1, Section 1.5, of the *CMRR-NF* SEIS, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions issued through the 2008 *Complex Transformation SPEIS* ROD. Refer to Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

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of the SEIS, except that such an alternative does not actually seem to be provided for in the SEIS. I ask, then, that new alternatives be considered, including no pit production at LANL.

Thank you.

(Applause.)

MR. MacALLISTER: Our next speaker is Bridjette Kennedy, followed by Angela Werneke.

MS. KENNEDY: Can I defer my time to Robert Gilkeson?

MR. MacALLISTER: If you'd like to yield the floor at this point --

MS. KENNEDY: Yeah, because I agree with his position that the facility is unsafe, and he has good scientific proof of that.

MR. MacALLISTER: Okay. Gilkeson, are you available?

MR. GILKESON: What are the ground rules this time?

MR. MacALLISTER: According to the ground rules, you have another five minutes. The other speaker yielded the position to you, so --

MR. GILKESON: Okay. The reason I am here is that I pointed out at earlier meetings this week the public was told that there has been no earthquake

708-3 cont'd

704-2

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704-2 Chapter 3, Section 3.5.1.4, Seismicity, describes the seismicity of the LANL region including the three Holocene surface-rupturing earthquakes mentioned by the commentor. The three seismic events are 1) an earthquake on the Pajarito Fault, approximately 1,400 years ago; 2) an earthquake on the Pajarito Fault approximately 5,000 to 6,000 years ago, which is consistent with an event during the same general timeframe on the Guaje Mountain Fault; and 3) an earthquake on both the Pajarito and the Rendija Canyon Faults, approximately 9,000 years ago. Surface rupture along these faults does not mean that surface rupture occurred within the current location of TA-55. As described in Section 3.5.1.3, Faulting, TA-55 is located within an area of relatively simple structure, where no surficial fault deformation has been documented.

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activity on the fault system at Los Alamos National Laboratory for longer than the past million years, and that's simply incorrect. As shown by this excellent report that I am just providing excerpts from, that show the LANL scientists have determined that there have been a minimum of three large earthquakes over the period of the last 10,000 years. And by large earthquake, I mean the power for ground rupture. And so I presented excepts from this report that describe that fact, and that specifically is new PALEON scientists data show three Pliocene [sic] -- that means the past 10,000 years -- surface rupturing earthquakes, one ground-surface rupturing event 1400 years ago.

And then a second rupturing event that occurred approximately between 5000 and 6500 years ago, but there were two simultaneous earthquakes on different fault segments at that time, for that earthquake event. So there were two surface ruptures at that time.

And then the third ground-surface rupturing event 9000 years ago was also separate rupturing events -- ground-surface rupturing events on both the Pajarito Fault and the Rendija Canyon Faults.

And then the report goes on and says: When two ground-surface ruptures occur simultaneously as part of the same event, the results in earthquake magnitude

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704-3 The PSHA (LANL 2007) included both simultaneous and synchronous earthquake rupture models in calculating design ground motions for TA-55. Simultaneous ruptures were slightly favored in the model with a weight of 0.6 because this is the standard model used in PSHA practice, and displacement data for the Pajarito fault system suggest this type of rupture occurred in the past. However, synchronous ruptures were also included in the analysis with a weight of 0.4.

The PSHA did not calculate higher hazard for the simultaneous rupture, but the PSHA did estimate slightly higher maximum magnitudes for the simultaneous rupture model. Preferred maximum magnitudes for both simultaneous and synchronous ruptures were estimated using the same general approach, which has a sound technical basis. It is somewhat counterintuitive that the slightly bigger simultaneous earthquake can result in a lower ground motion hazard, but the two synchronous earthquakes result in higher ground motions for nearby sites, particularly when the site is located between the rupturing fault segments, because energy is coming from two sources.

For both synchronous and simultaneous ruptures, maximum magnitudes were estimated in the PSHA based on surface rupture lengths and available displacement data, as appropriate to the particular rupture scenario. The main difference between the simultaneous and synchronous ruptures is that all of the moment (energy) is released in one event in the simultaneous model, versus the moment being split into two slightly smaller synchronous subevents on different segments of the Pajarito fault system, in the synchronous model. Thus, the slightly smaller magnitudes for the synchronous ruptures are a direct result of splitting the fault rupture into two portions for this model. In addition, the 10 percent difference in the total moment release between the two models primarily results from the different geometries used and the fact that displacements do not scale the same as surface rupture lengths in the empirical relations. Finally, as maximum magnitudes for both synchronous and simultaneous ruptures were calculated correctly using techniques that meet SSHAC and DOE guidelines. The calculated results were checked and thoroughly peer reviewed.

Chapter 3, Section 3.5, Geology and Soils, of the CMRR-NF SEIS was revised to improve the discussion of faulting and seismic hazards at LANL.

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is greater than when the main Pajarito Fault ruptures alone.

Another excerpt is: The evidence for fault interaction suggests the potential for static stress concentrations and earthquake triggering.

So this means it's an active fault while we're here this evening. There's movement going on on this fault system at all times, and that movement is gaining strength and will eventually trigger an earthquake event.

So I think I'll stop with that, and thank you.

MR. MacALLISTER: Thank you, sir.

(Applause.)

MR. MacALLISTER: Our next speaker is Angela Werneke, followed by Caitlin McHugh.

MS. WERNEKE: I get really nervous speaking in front of people, so bear with me.

First, as a New Mexican living downwind and downstream in LANL, I feel the cleanup of existing contamination is a priority over building a new pit production facility, the sole purpose of which is to perpetuate nuclear weapons.

Secondly, the United States is on the edge of economic disaster, which can either be remedied or

704-4

709-1

704-4 There is no geologic or seismologic evidence that the rate of occurrence of surface-faulting earthquakes (magnitude > 6.5) is increasing along the Pajarito fault system. Paleoseismic investigations indicate that that three large earthquakes ruptured along the Pajarito fault system during the Holocene period (past 11,000 years), suggesting that this recent activity may represent a temporal cluster in the long-term behavior of the fault (LANL 2007; Lewis et al. 2009). However, this possible pattern in the activity rate of the Pajarito fault system has been incorporated into the PSHA (LANL 2007, 2009). There is also no geologic or seismologic evidence that would suggest that the maximum potential earthquake along the Pajarito fault system is increasing in size. The maximum earthquake for the Pajarito fault system has been estimated for the PSHA based on observed fault displacements from past earthquakes and rupture dimensions of the potential fault rupture. Over the lifetime of the CMRR Facility and much longer, that is, thousands of years, the level of seismic hazard at the CMRR-NF site is not expected to change because there are not expected to be changes in the maximum potential earthquake and activity rates of the Pajarito fault system. The general behavior of the Pajarito fault system is not expected to change over the time scale of the next century.

709-1 NNSA acknowledges the commentor's support for cleanup of existing contamination. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Funding decisions regarding major Federal programs (for example, education) and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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exacerbated by the choices we make for ourselves. Do we choose peace and prosperity or nuclear weapons. While the defense budget continues to increase, one in four Americans is worried about having enough food for their families. Funding for defense may benefit a few, but the vast majority of Americans will lose.

In truth, we all lose if we value weapons production and poisoned rivers over peace, health and prosperity for all.

Linda Hogan, in her book "Dwellings," speaks for many of us here when she says:

"Cornmeal and pollen are offered to the sun at dawn. The ears of the corn are listening and waiting. They want peace. The stalks of the corn want clean water, the sun that is in its full clean shining. The leaves of the corn want good earth. The earth wants peace. The birds who eat the corn do not want poison. Nothing wants to suffer. The wind does not want to carry the stories of death." Rather, Linda Hogan goes on to say: "The language of life won't be silenced."

Thank you.

(Applause.)

MR. MacALLISTER: Caitlin McHugh, followed by Norman Budow.

MS. McHUGH: Hi. My name is Caitlin

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McHugh, and I've lived in Santa Fe for the past 30 years. I'm not affiliated with any organizations. I just feel very strongly that there hasn't been adequate safety consideration given for this new facility.

The safety issue is a big, big problem, contamination of our water, which we know is so precious in this community, and also the geologic issues that have been brought up.

I also feel that this Supplemental Environmental Impact Study hasn't adequately addressed all the options that are available. Basically, I find it perverse that in the name of safety justifying building of nuclear weapons, that the safety of the local people haven't been considered in this -- in this situation.

That's all I have to say. I would like -- I'd like our government to please protect us appropriately.

Thank you.

(Applause.)

MR. MacALLISTER: Norman Budow, followed by Susan Odiseos.

You can correct me.

MS. ODISEOS: Odiseos.

MR. MacALLISTER: Thank you.

710-1

710-1 The *CMRR-NF SEIS* addresses public health and safety of the local communities, including impacts on water supply. The existing safety conditions at LANL are addressed in Chapter 3 of the *CMRR-NF SEIS*, Section 3.11, Human Health, including radiation exposure and risk; the chemical environment; industrial safety; health effects studies; accident history; emergency preparedness and security; and the LANL Security Program. The environmental consequences or impacts on human health from normal operations, facility accidents, or intentional destructive acts are analyzed in Chapter 4, Sections 4.2.10, 4.3.10, and 4.4.10, and Appendix C of the *CMRR-NF SEIS*.

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MR. BUDOW: Thank you, folks. Glad that you're all here on this subject.

And I want to say that it's a subject near and dear to my heart. Why? My granddaughter is a seismologist in California, and her heart's desire is to find a way to predictability [sic] of fault lines and earthquakes. She read a paper in -- on the Island of Hokkaido, Japan, a northernmost island. And I'm glad she read it then because I wouldn't want her to go near the Japanese archipelago now.

711-1

I have a little anecdote that might emphasize why I'm concerned. My wife lost family over from [sic] Ukraine. They lived 25 miles from Chernobyl. We brought them here, and they were telling me how they trusted and listened to their experts. And then she said after they had the meltdown, they had people -- well, before the meltdown, they had scientists come from their lab, and they were telling them, Be on guard. They were telling them what vegetables and fruits they could eat from their garden. It was sort of like -- sort of like playing Charade. You can eat the carrots from here. Don't eat those radishes over there. And she was, you know, kind of hurt that they believed and believed.

Now, at Fukushima, there was a real

711-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.5, Cleanup and Waste Management, of this CRD for more information. NNSA complies with Federal, state, and local laws and regulations, and DOE orders to protect human health and the environment.

There are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accidents that occurred at the Fukushima Daiichi Nuclear Power Plant, and earlier at the Chernobyl Nuclear Site, requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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resentment that their experts told them; the nuclear power plant was safe, safe, safe, and it turned out not to be all that safe.

I had an experience a couple of years back when Admiral Stansfield Turner, under the auspices of the International Relations Community -- organization here in Santa Fe. There was a dinner, and he was speaking about his hope and desire to reduce the amount of nuclear bombs from 6000 to 2000. And I was troubled by that. And I was -- my banquet table -- my banquet table was right underneath the speaker's dais. So I asked him after the dinner, the supper, Why 2000, reduced from 6000 to 2000; why not have it much less than that or zero? And he looked at me and he said, Well, I appreciate your concern; I appreciate your concern, but it's a start; it's a start. So I was not very, very happy at his attempts to comfort me, that it's a start.

One of our desires is to prevent nuclear proliferation. We provide a terrible, terrible example where we continue -- continue proliferating our own -- it's like taking nuclear waste, making it over here, and taking it out over there. And it's still here. It's still here.

So I'm hoping that we can follow the edict

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of Albert Einstein. And Albert Einstein made a statement: The definition of insanity is to keep doing the same thing over and over and over and expecting a different result.

Thank you.

(Applause.)

MR. MacALLISTER: Thank you, sir.

Susan -- I won't butcher your last name again -- followed by Jay Coghlan.

MS. ODISEOS: Susan Odiseos. It's a Greek name, but I'm a Danish princess, in case anyone asks.

(Laughter.)

MS. ODISEOS: I'm a resident of Santa Fe. I'm a member of the Justice and Peace Committee of St. Pete's Church. You won't hear me talking in technical terms because that's not what I do.

My comment to Mr. Tegtmeier and his colleagues is going to be in the form of a question. But to get to it, let's take, first, into account the serious budget situation in our country, whereby the funds sought for the CMRR facility could alleviate the need to cut critical human service programs, and taking into account that the old facility, which sits on a fault, is only a little over a mile from the planned-for facility. The new facility is within two-thirds of a

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712-1 NNSA notes the commentor's concern regarding the budget situation in our country and funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

NNSA acknowledges the commentor's concern for the need and location of the CMRR-NF. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

The commentor's concerns that an accident (similar to the one that occurred in Japan at the Fukushima Daiichi Nuclear Power Plant) could happen at LANL is addressed in Section 2.8, Nuclear Accidents, of this CRD.

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mile of a known fault. To add to that uncertainty, the total extent of seismic fault under the lab is not completely mapped. Haven't we learned anything from the tragedy in Japan?

712-1 cont'd

Use of the fear factor to propel preparedness against our enemies is beyond comprehension. The proposed amount of plutonium to be stored so close to us, with all the risks entailed, would create a bomb too big to drop without annihilating mankind.

The unprecedented growth of this project from a mere 350 million to now nearing 600 billion -- 6 billion for just the nuclear facility, with final design not yet completed, without an undated environmental impact statement in place to accompany the design changes, is most unfortunate, if not irresponsible.

712-2

It's hard not to connect the dots and see clearly that this project involves mostly privatization, with private companies receiving more than 80 percent of the monies involved.

Finally, the fact that so many people are opposed to efforts to continue armament efforts, the simple and straightforward question I have is: What will it take for you to stop this project?

712-2 The cost to build and operate the proposed CMRR-NF is not within the scope of the *CMRR-NF SEIS*, but it will be one aspect that NNSA takes into consideration when making its decision.

(Applause.)

MR. MacALLISTER: Thank you.

Jay Coghlan, followed by David Bacon.

MR. COGHLAN: I'm Jay Coghlan with Nuclear Watch New Mexico. I spoke twice last night at the Espanola --

UNIDENTIFIED SPEAKER: Speak louder.

MR. COGHLAN: Okay. Jay Coghlan.

MR. MacALLISTER: Do you want me to raise that, Jay?

MR. COGHLAN: Yes, if you would.

Okay. Again, I'm Jay Coghlan with Nuclear Watch New Mexico. I spoke twice last night at Espanola, and time flies when you're having fun. I only got like halfway through or something like that.

And I was looking to make two broad points. You know, first of all, I note that these hearings and the entire process is required by federal law, that being the National Environmental Policy. And towards that end, I -- I'm pointing to what I believe are two possible broad legal deficiencies to the draft. And specifically, it's that NNSA has chosen to not revisit the need for the CMR nuclear facility. It basically says that nothing has changed since the 2003 Environmental Impact Statement. *713-1*

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713-1 NNSA notes the commentor's concern that a new EIS, not an SEIS, should be prepared. The proposal to construct a new facility to perform chemistry and metallurgy research involving plutonium and other actinides is the result of evaluations going back more than 10 years. As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years. Other alternatives for meeting the purpose and need have been considered and are discussed in Chapter 2, Section 2.7, of the *CMRR-NF SEIS*. See Section 2.3, Programmatic Direction and Decisions, Section 2.4, CMR Mission, and Section 2.11, Alternatives Considered, of this CRD for more information.

NNSA also notes the commentor's concern that maintaining a secure and reliable nuclear stockpile is contradictory to President Obama's goal of a nuclear-free world. Since the 1940's, the President and Congress have directed DOE and it predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile.

President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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And then the other broad point that I'm reaching for is that this draft Supplemental EIS doesn't really offer genuine spectrum of reasonable alternatives.

Now, with respect to the first point that I made, again that I believe erroneously NNSA has not decided to visit mission needs, again saying that not much has changed since 2004, I was amused last week to run across a new strategic plan by NNSA that the first thing it said was how much things had changed since it had last produced a strategic plan in 2004. And it specifically -- it right away pointed to the speech that Obama made in Prague in April 2009 in which the President of the United States annunciated having a future world free of nuclear weapons to be a national security goal. So indeed much has changed.

Now, at the same time that Obama said that, he also said that in the interim we're going to maintain a secure and reliable stockpile. And towards that end, the Obama administration has specifically endorsed and given lots of money to the CMRR nuclear facility.

But getting to mission need, what -- what the Obama administration has not done nor has the Bush administration done, despite repeated attempts, it has not raised the level of plutonium pit production from

713-2

713-1 cont'd

713-2 NNSA notes the comentor's opinion that the *CMRR-NF SEIS* does not analyze a reasonable spectrum of alternatives. Taken together, the alternatives section of the *2003 CMRR-EIS* and this *CMRR-NF SEIS* provide the range of reasonable alternatives. In response to public comments like these, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* has been revised to describe in more detail the alternatives that NNSA considered but found would not meet the purpose and need for continuing CMR operations into the future. See Section 2.11, Alternatives Considered, of this CRD for more information.

the currently sanctioned level of 20 pits per year. And I don't think there are any immediate prospects that that rate of production will be raised.

And nobody should be under any illusions. The CMRR, it's not only about but it is primarily about expanding pit production, despite denials in the Supplemental EIS. I can point you to a number of other NNSA documents, such as the Fiscal Year '11 Strategic Stockpile Stewardship and Management Plan, such as a solicitation for a bid to manage the Lawrence Livermore Laboratory, which has specifically tied expanded pit production to new design reliable replacement warheads.

Now, I know I'm going to run out of time, and I'm hoping I'll get another chance to speak. But I think it's illustrative and important to look at the history of the pit production since 1989. And in that year, the FBI raided Rocky Flats. And Rocky had -- its peak was probably capable of -- don't hold this for a fact, but it was probably capable of producing on the order of 1000 pits per year. Well, the FBI raid just shut that cold.

And then the Department of Energy spent, oh, the next 15 years or so trying to re-establish interim pit production here at Los Alamos. And the purported reason or rationale for doing that was to

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produce the particular type of pit for the W88 warhead that was being produced when Rocky was shut down.

Well, subsequently, LANL has done its production run for about 30 W88 pits; completed it last year. I don't believe it's going to be producing any more W88 pits, and it's not clear why any other pits would be needed. There are approximately seven other types of pits.

This goes back. I don't think the laboratory -- the labs and the Nuclear Weapons Complex, in general, I don't think they have entirely given up on new designed weapons, and they're doing it by another name. And they're seeking to incrementally achieve their aims through these so-called life extension programs, which they're going to take existing weapons and radically modify them. So I'm still waiting for the red sign to come up.

But to conclude for now: Again, it's the aim of the Weapons Complex to radically change existing weapons, to change their military capabilities, in fact. And they will begin intrusive modification of existing pits up at PF4, the existing pit production facility, which will be integrated into the CMRR nuclear facility. And I'll continue my remarks later.

MR. MacALLISTER: Thank you, sir.

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(Applause.)

MR. MacALLISTER: David Bacon, followed by Leslie Alderwick.

UNIDENTIFIED SPEAKER: David will be back later. He has to give a radio show.

MR. MacALLISTER: Okay. Leslie Alderwick? Forgive me if I'm mispronouncing that name.

MS. ALDERWICK: Hi.

I guess I'm a little confused. I was sitting in a restaurant in Taos, and I picked up the Journal, and it said something about a meeting down here about this issue. But nowhere in the paper did it say that this new building -- 6 billion, is it? A $6 billion building, when we have no money for education, is going -- nowhere did it say it's going to build detonating devices for nuclear bombs. Nowhere did it say that. Why not? Why not? Why isn't this room filled with people trying to make it clear that life is really more important. You've got intelligence. You're educated. We have brilliant minds here; poetry. And we're going to build more nuclear bombs? Come on. It is time that everybody gets on the same page.

Do you like your life? Do you enjoy breathing air? Do you love your children? And we're going to build more bombs? Let's get that information

714-1

714-1 NNSA notes the commentor's opposition to nuclear weapons and concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

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out into the public. Shouldn't we? It's not in the public view. These newspaper reports don't tell you what's really going on. Why don't you tell us the truth? Why isn't the truth out there? If it's okay and building all these bombs is a good thing, why don't you tell us you're doing it?

714-1 cont'd

I think we need a little more truth. With all this intelligence and all this poetry, how about a little truth? How about a little belief in life instead of money and all the things that war brings?

(Applause.)

MR. MacALLISTER: Thank you.

Pamela Gilchrist, followed by Erwin Rivera.

MS. GILCHRIST: I'm Pamela Gilchrist, and I live in Santa Fe.

In addition to the previous comments, most of which I fully agree with, I want to emphasize that the Department of Energy must consider what I believe to be the only viable alternative, and that is to abandon this project.

(Applause.)

MS. GILCHRIST: Cleanup of the existing waste -- cleanup of the existing waste must be a DOE priority, not a new nuclear facility, on which 450- to $500 million has been spent.

715-1

715-1 NNSA notes the commentor's support for cleanup and concerns regarding the funding priorities of the U.S. Government. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.3, Programmatic Direction and Decisions, and Section 2.5, Cleanup and Waste Management, of this CRD for more information.

Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information. An alternative involving an abandonment of the project does not meet NNSA's stated purpose and need (see Chapter 1, Section 1.3, of the *CMRR-NF SEIS*).

Although I'm speaking as a private citizen tonight, I served on the Northern New Mexico Citizens' Advisory Board to the DOE for the cleanup at LANL. I've served on the board for two years, and I'm familiar with the current cleanup effort. I feel that the DOE can be proud of the dedicated team doing this critical work.

DOE has made a commitment to cleaning up the legacy waste at LANL when it signed the consent order of the New Mexico Environment Department on March 1st, 2005. The order requires cleanup by December 31st, 2015, including Area G dump site at Technical Area 54. However, cleanup is proceeding there at only 25 percent of capacity, and the only constraint is money, a mere $400 million, not even as much as has been spent on the studies for the $6 billion facility. $400 million is needed for the cleanup to be done at 100 percent capacity. To avoid the NMED fines, cleanup at 100 percent capacity needs to happen to meet the 2015 consent order deadline. We've done the math. So in order to meet the consent order deadline of 2015, DOE's cleanup operation at LANL needs to run at 100 percent; currently running at 25 percent. They can do it. They just need the funding. DOE must comply with consent order, not build a new nuclear facility.

(Applause.)

715-1 cont'd

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MR. MacALLISTER: Thank you.

Erwin Rivera, followed by Annal Hansen.

MR. RIVERA: David Bacon has arrived, if you care to go with him.

MR. MacALLISTER: Well, what I'm doing with people who are out of the room, I will call them; they won't lose their turn, but we'll stay in the order. Thank you for --

MR. RIVERA: (Speaking Spanish; no translation.)

And I'm bilingual or multilingual. I wish I could speak in the language of my Taos ancestors or in Tewa, but I hope I speak with some common sense and convey to you the prayer of our ancestors.

I speak mostly also as a grandfather and my responsibility to them, because as I was taught, whether I'm a Chicano from land grants or an Indio from Taos Pueblo, that we understand that what we do, say today will have an impact upon seven generations unborn. My grandmother has held my grandchildren, meaning there are five living generations in my family. But that still means I have a responsibility to my grandchildren's grandchildren, to account for the shame and neglect that our generation has allowed to happen, to be there at that end [sic], their inheritance.

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I'm not here to debate the scientific information but merely to say it's not dependable. It can't be held accountable. And the only consistency, beginning from when the Los Alamos Laboratories started, began at gunpoint when my children's ancestors were forced off of the Pajarito Plateau at gunpoint in the name of the national security with the promise that first rights of rescission would go back to those first descendants of that land, and they lied.

There is no credibility by DOE or LANL, no proven accountability, and so whatever is said in any of the reports paid for by immoral money cannot be trusted. But what I do trust is the conviction of people that can speak truth to power and stand up to the corruption that Los Alamos is merely one example of.

Those homesteaders that were removed by force, then bought off by silence in the settlement that was made of several million dollars, hidden in a military appropriation, thanks to Plutonium Pete Domenici. Their story of injustice is yet to be told. But $7 million isn't enough to hide the truth of the injustice or what happened to the Pueblos, because we know the power of the Jemez, which holds the largest caldera, volcanic crater, on earth, and with many sacred sites that also were desecrated from the very beginning

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716-1 NNSA notes the commentor's opposition to LANL.

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that those laboratories began.

Then we had the Cerro Grande Fire and more sacred sites revealed, and illegal dumping that is beyond the records and the memory and the accountability of Los Alamos to admit to. And they want us to trust their technology? I don't, because technology over common sense -- Cerro Grande -- all you had to do was see if the wind was blowing (demonstrating).

To tie this to the rest of the technological solutions of nuclear energy, nuclear power, nuclear terrorism, we have been victims at every aspect of the nuclear chain in Nuevo Mexico, beginning from the national sacrifice area of the Jackpile Mine and highest birth defects on earth of the Laguna Pueblo people, and that nothing will grow there and that people cannot grow their corn, which is primary to all our prayers.

But in the promise of jobs as the Vaseline for what was to come, to all the way to WIPP, and all's they can come up with their technology is another landfill just built a little deeper. And nuclear energy and the promise for nuclear and energy independence is just another fancy way of boiling water. What's the technological gift?

I also need to speak with a promise of the

716-1 cont'd

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time that we know we are in. We are in the time of prophecy in the native way. So I please ask -- this is not comments for your applause. So that none of the sacredness of what needs to reach your heart is shaken off of you. We are in the time of prophecy, and Aztecs call this time Iztsolin [phonetic], time of earth movement.

Our young people are fulfilling prophecy because they want to return, and they're asking to learn the old prayers. Our younger generation's prepared to sacrifice by fasting for the good of the people, and they will have a memory to hold us accountable to what we have done or not done by our neglect to assure future generations.

The drilling into the geothermal pools, what we have heard from experts about seismic activity, only correlates what our ancestors have told us of their warnings of what we are attempting and what risk that we have placed upon all of us.

So my last message is to the highest concentration of Ph.D.'s on the face of the earth so that you can face your children in the eye: Convert that intelligence and that education for life and for peace so that we can look each other in the eye as hermanos -- (speaking Spanish; no translation) -- and

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have a future that will -- (unintelligible).

Thank you.

MR. MacALLISTER: Thank you.

Annal Hansen, followed by John Withan.

And pardon me if I'm mispronounced your name. Correct me.

MS. HANSEN: My name is Annal Hansen.

717-1

In 2000, I was chair of Concerned Citizens for Nuclear Safety during the Cerro Grande Fire. After that, we organized a conference called the Cerro Grande Fire and the Aftermath. We requested cleanup of Los Alamos. It -- still, ten years later, nothing has been done. It is only being done by a consent order. Los Alamos Labs and Los Alamos National Security now will not do anything to take care of the citizens of New Mexico in the future, because -- unless they are taken to court. They do not care about our lives. Our lives are not a value to them.

President Obama said, when he was running for president, that he wanted a nuclear-free world. If so, why are we building more pit? We do not need any more nuclear weapons. We do not have the money to build the new building, and we do not need any more bombs. This project must be abandoned.

Nuclear power, nuclear energy, nuclear

717-1 NNSA notes the commentor's opposition to pit production and the existence of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Please refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

NNSA also notes the commentor's concern that maintaining a secure and reliable nuclear stockpile is contradictory to President Obama's goal of a nuclear-free world. President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

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weapons is deadly from the beginning to the end, from uranium mining that killed our native people, who have been the miners, to the end product, which is death. A bomb is to kill. Nuclear power plants kill people now. They are not made for peace.

We need green jobs, really clean green jobs.

I am also extremely concerned that this planned pit production, bomb building, is being built upon our water supply, which right below where the building is being built is the major water diversion plant for the City of Santa Fe. All of that water also goes downstream. We already have plutonium in the Rio Grande. It is a fact, a documented fact. Lake Cochiti was built to stop the plutonium from going into Albuquerque. So we have a real serious problem with plutonium already in the water stream, not to mention all of the toxins and the chemicals that are created by the process of making nuclear weapons.

And 60 years ago, when they built the lab, they said, Oh, don't worry; it'll take 600 years before we -- you see any contamination; there will never be any contamination. It's only taken 50 years or less to have contaminated springs along the Rio Grande. So there is absolutely no reason to build this kind of building.

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717-2

717-2 NNSA intends to comply with all applicable laws and regulations. NNSA will obtain all necessary permits as the project progresses if the decision is made to construct the CMRR-NF. There are established programs at LANL that address liquid discharges and cleanup of past contamination. Liquid discharges through permitted outfalls are sampled and analyzed to evaluate compliance with permit conditions; results are reported annually in the LANL environmental surveillance report (copies are available at http://www.lanl.gov/environment/air/reports.shtml). A monitoring program is conducted at LANL (described in the *LANL SWEIS*, Chapter 4, Section 4.3.1.5) to detect contamination that has resulted from past practices. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL, and Section 2.5, Cleanup and Waste Management, of this CRD for more information on cleanup of past contamination.

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The financial costs of trying to build a plutonium pit production complex in a geological unstable area are just too high. A new nuclear facility will detract from cleanup of the existing mess, and we must make sure that the legacy waste that is running into the Rio Grande every time there is a large water event or a snow event -- they had to create the Buckman Diversion with doors so that they could close the doors in order -- when there was a runoff from Los Alamos so that that water would not be going into our drinking system. So that is just one small example of the damage that is being done to all of us through this.

717-3

The U.S. does not need 80 new plutonium pits a year. We don't need any. We need to move away from killing, and we need to have life-affirming activities. And manufacturing of plutonium pit is a dangerous and polluting threat to the health and safety of those living downwind and downstream. So please be considerate of the world, and stop the nuclear menace.

(Applause.)

MR. MacALLISTER: Our next speaker is John Withan, followed by Jack Franco.

MR. WITHAN: I'd like to yield my time to Jay Coghlan.

MR. MacALLISTER: Jay.

717-3 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL, such as cleanup activities, are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*.

In regards to cleaning up past contamination at LANL, DOE established an environmental restoration project in 1989 to characterize and, if necessary, remediate over 2,100 potential release sites that were known to be or suspected of being contaminated from historical LANL operations. Remediation and cleanup efforts are regulated by and coordinated between NMED and DOE in accordance with a Consent Order. NNSA does not consider environmental restoration to be optional and progress on implementing environmental restoration activities is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for more information.

MR. COGHLAN: Jay Coghlan, Nuclear Watch.

When I was last talking, I was trying to trace the history of plutonium pit production from 1989.

And briefly, Rocky Flats was making on the order of 1000 pits. The FBI raided it; shut it down. W88 pits were in production at that time.

Interim production was re-established at Los Alamos, but in, like, 2002 or 2003, NNSA was coming forward with a proposal for a modern pit facility, capable of building 450 pits per year. And in Part 3 of the NEPA processes like this, that was defeated, and Congress declined to fund it.

NNSA came back with a proposal for a consolidated plutonium center, and that was to produce 125 pits per year. And that got defeated as well. NNSA came back proposing to expand pit production to 80 pits per year. This was in 2006, if I remember correctly. But that, too, was defeated.

What I'm trying to depict is the overall trend where this country is going down from producing 1000 pits per year to under 20. In this particular year, I don't believe that Los Alamos is producing any pits whatsoever or pits certified to go to the stockpile. And as I previously said LANL did a production run of approximately 30 pits for the W88

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warhead, which met their strategic needs. So there is no apparent reason for future pit production, save one.

And up until 2006, NNSA was claiming that pits had a lifetime -- serviceable lifetimes of around 45 years. And Senator Bingaman, at our request, asked NNSA and some independent experts to perform a pit lifetime study. And the pertinent conclusion is that pits last a century or more. So they're known to be relatively stable.

Again, underlying the fact that there is no clear need for plutonium pit production, save one, and so the past argument was over the so-called reliability of pits. We beat them at that argument. In response, NNSA has come back and used what I'm going to derive as being an apple and motherhood argument of: Now we have to have absolute surety in our weapons. And surety means preventing the unauthorized use by anybody else.

Now, that sounds like a great idea, and I'm all for that. But the problem is, I believe this is being used as a rationale for intrusive modifications at Los Alamos. And there can be -- this could actually undermine our national security, because a pit has to pretty much perfectly, symmetrically implode in order to reach criticality, and anything that can possibly perturb that perfect implosion could affect the

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performance of the stockpile.

713-3

Now, let me be clear: I want a future world free of nuclear weapons, just like our president professes and most countries around the world profess. But in the meanwhile, I don't want any excuse for the weaponeers to be messing with existing weapons that are known to be highly reliable, and I think much of this smacks as being make-work.

Now, before I get cut off, I just spent all that time undermining the need for the nuclear facility, which is explicitly for expanded pit production. There's no ifs, ands and buts about it.

713-4

My second criticism of this Supplemental EIS is that it offers no real, genuine spectrum of alternatives. What it posits, or three [sic], which is the so-called "No Action" to build a nuclear facility as proposed in 2004, that's a nonstarter. We know that -- you know, that can't happen because of the new seismic data and knowledge.

The third alternative, continuing to operate the old CMR building without upgrades, is also a nonstarter. We just know that operations cannot be continued there without serious upgrades. And, you know, should I ascribe malicious motive here? I don't know. I shouldn't do that. But basically three

713-3 NNSA acknowledges that there is substantial opposition to nuclear weapons and their components and that President Obama has stated a long-term goal of a world free of nuclear weapons. President Obama also stated that this goal would not be reached quickly. Since the 1940s, the President and Congress have directed DOE and its predecessor agencies to develop and produce the Nation's nuclear weapons and to ensure the safety and reliability of the nuclear weapons stockpile. Even in the post-Cold War period, international dangers remain, and nuclear deterrence will continue to be an important element of national security policy for the foreseeable future.

A decision on the level of pit production is not within the scope of the *CMRR-NF SEIS*, as that decision was made in the *Complex Transformation SPEIS* ROD in December 2008 (73 FR 77644). The CMR Building and the CMRR-NF provide capabilities for performing analytical chemistry, materials characterization, and plutonium research in support of the plutonium mission (including stockpile stewardship, maintenance, and pit production), but they are not tied specifically to LANL's pit production capability or to any particular pit production level of activity that would take place at the TA-55 Plutonium Facility. In the 2008 *Complex Transformation SPEIS*, NNSA reviewed future plutonium-related requirements across the complex and concluded in the associated ROD that the CMRR-NF should be built at LANL (73 FR 77644). As indicated in Chapter 1, Section 1.3, of the *CMRR-NF SEIS*, NNSA has a continuing purpose and need to provide analytical chemistry and materials characterization in support of all DOE and NNSA nuclear mission work. NNSA has determined that the existing 60-year-old CMR Building cannot provide the necessary level of support over the next 50 years.

713-4 The *CMRR-NF SEIS* specifically addresses changes in the design of the CMRR-NF based on additional seismic information and safety requirements. CEQ and DOE NEPA regulations and implementing procedures (40 CFR 1502.9(c) and 10 CFR 1021.341(a) – (b), respectively) require preparation of an SEIS if there are substantial changes in the proposed action that are relevant to environmental concerns or there are significant new circumstances or information relevant to environmental concerns that bear on the proposed action or its impacts. The regulations state that an agency may also prepare an SEIS when the agency determines that the purposes of NEPA will be furthered by doing so. NNSA determined that an SEIS is the appropriate level of analysis, based on CEQ and DOE NEPA regulations, to address the changes in construction of the CMRR-NF based on additional seismic information. Regarding the alternatives to be

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alternatives are positive, and two of them are automatically straw man, as far as I'm concerned, leaving just the preferred alternative paragraph, which suggests that we should have at least two other credible and reasonable alternatives, which I submit that the National Environmental Policy Act requires that there be credible, reasonable alternatives.

One is to look, again, at upgrading the old CMR building such that necessary operations can be continued in the interim. And I should point out that in the past, CMR upgrades were rejected because they were too expensive. Well, now that the CMR Replacement Project has exploded tenfold to 6 billion, that argument no longer holds water.

713-4 cont'd

Thirty seconds. And I can suggest the other credible alternative, and this is the one that Nuclear Watch prefers and advocates. We do not think that the nuclear facility should be built at all. We think that old CMR missions can be relocated to the recently constructed rad lab, which is 108,000 square feet, and to the existing pit production facility, PF4.

713-5

And I'll close there, since Bruce is getting anxious. But in sum, we'd argue, NNSA has to go back and revisit mission in need and gets -- and needs to present a credible spectrum of real alternatives.

addressed in the *CMRR-NF SEIS*, as stated in Chapter 1, Section 1.5, NNSA does not intend to revisit decisions previously made on the level of operations at LANL, including the maintenance of CMR operational capabilities to support critical NNSA missions, reached in 2008 and issued through the 2008 *Complex Transformation SPEIS* ROD. The No Action Alternative in the *CMRR-NF SEIS* follows the decision announced in the ROD for the original *CMRR EIS*. Another alternative addresses the option of continuing to use the CMR Building, although its continued use would not fully meet NNSA's stated purpose and need.

Although it was listed as one of the alternatives in the Notice of Intent, after further consideration, NNSA eliminated the alternative to upgrade the CMR Building from further consideration. In the 2003 *CMRR EIS*, DOE considered the proposal to complete extensive upgrades to the existing CMR Building's structural and safety systems to meet current mission support requirements for another 20 to 30 years of operations and dismissed it from detailed analysis. Beginning in 1997 and continuing through 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term structural viability of the CMR Building. In the course of considering these issues, DOE determined that the extensive facility-wide upgrades originally planned for the CMR Building would be less technically feasible than had been anticipated and would be only marginally effective in providing the operational risk reduction and program capabilities required to support NNSA mission assignments at LANL. Structurally upgrading the entire structure to a significant extent would require construction of new walls and other building components adjacent to the existing ones that have utilities and structural building features already in place. This work would have to occur while continuing uninterrupted operations in the CMR Building using nuclear materials and hazardous chemicals. The technical challenges of implementing extensive seismic upgrades to the entire CMR Building as discussed in the 2003 *CMRR EIS* remain. However, in response to public comments on the *Draft CMRR-NF SEIS*, NNSA has considered undertaking a more limited, yet intensive, set of upgrades to a single wing of the CMR Building, Wing 9, to meet current seismic design requirements so that this wing could be used for a limited set of Hazard Category 2 analytical chemistry and materials characterization operations. After careful consideration of the complex engineering and operational issues, as well as the CMR Building site's seismic concerns, this potential Wing 9 upgrade alternative was also determined not to be a reasonable alternative for meeting NNSA's purpose and need for action. NNSA also has considered the possibility of renovating, upgrading,

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(Applause.)

and reusing other CMR Building wings and additional wing combinations to provide the space needed for continuing analytical chemistry and materials characterization work in the building and found that the other wings and wing combinations are not reasonable alternatives for providing adequate safe and secure space for future operations in a feasible, cost-effective manner and are not considered further in the *CMRR-NF SEIS*. Refer to Section 2.11, Alternatives Considered, of this CRD for more information.

713-5 In response to public comments like these, Chapter 2, Section 2.7, of the *CMRR-NF SEIS* has been revised to describe in more detail the alternatives that NNSA considered but found would not meet the purpose and need for continuing CMR operations into the future. The alternative of distributing analytical chemistry and materials characterization capabilities among multiple facilities at LANL was considered, but not analyzed as a reasonable alternative. Because of the quantities of special nuclear material involved, to fully perform the analytical chemistry, materials characterization, and plutonium research capabilities, facilities would need to be classified as Hazard Category 2 and Security Category 1. RLUOB was not intended as a nuclear-qualified space to handle Hazard Category 2 or 3 levels of nuclear material. Thus, NNSA could not operate RLUOB as anything other than a radiological facility, which would significantly limit the total quantity of special nuclear materials that could be handled in the building. As a result, analytical chemistry and materials characterization operations requiring Hazard Category 2 and 3 work spaces could not be carried out in RLUOB. Using space and capabilities in the TA-55 Plutonium Facility would interfere with performing work currently being conducted there and reduce the space available in the building that could be used to conduct future DOE and NNSA mission support work. Use of other locations at LANL would introduce new hazards for which the facilities were not designed and would not conform to the objective of collocating plutonium operations near the TA-55 Plutonium Facility. Performing work at a location remote from the TA-55 Plutonium Facility would necessitate periodic road closures and heightened security to enable transport of materials between the facilities. In addition, other facilities would not have the available space, vaults, and engineered safety controls and requirements for this type of work.

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MR. MacALLISTER: Jack Frenkel, and he will be followed by David McCoy because Liz Rando has yielded her time to Mr. McCoy.

MR. JACK FRENKEL: Mr. Chair, members of the public, I am Jack Frenkel. I live in Santa Fe. I am a physician and scientist.

718-1

I came mainly to listen and to hear, and I want to summarize many of the uncertainties and the lack of trust expressed during these previous hours. So the uncertainties expressed and the mistrust expressed relate to the safety in terms of water supply for Santa Fe and for Albuquerque.

The problem of the fire danger, similar to the Cerro Grande fire or a worse one, is perhaps not very intense right now since most of the fire has destroyed the forest. But the remaining trees, I believe, will have to be removed and regrowth would have to be prevented.

Thirdly, this seismic activity is not satisfactorily presented and discussed. Fourthly, the capacity to defend this large store of plutonium against terrorists, particularly as much as mock attacks in previous years, the mock attackers, I was told, were generally prevailing and the defense was inadequate. So the building should be constructed

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718-1 The *CMRR-NF SEIS* addresses the areas of concern listed by the commentor. Water usage and the impacts on water quality are addressed in Chapter 4, Sections 4.2.6, 4.3.6, and 4.4.6, as well as in Section 4.6, Cumulative Impacts.

Wildfires, such as the Las Conchas fire of June 2011 and the Cerro Grande fire of May 2000, are recognized hazards in the area around LANL. As indicated in Chapter 3, Section 3.7.1, of the *CMRR-NF SEIS*, forests are thinned as part of an ongoing Wildfire Hazard Reduction Program to reduce the fuel load available in the event of a fire. The risks and potential impacts of a wildfire on the entire LANL site were evaluated in the 2008 *LANL SWEIS*, Appendix D (DOE 2008a). The CMR Building and the TA-55 Plutonium Facility were not included as facilities that present a significant risk due to wildfires because these facilities are constructed of noncombustible materials and are surrounded by buffer areas in which combustible materials including vegetation are kept to a minimum. For the same reasons, wildfires are not expected to result in the release of radioactive materials from the proposed CMRR-NF. Appendix C of the *CMRR-NF SEIS* was revised to include a discussion of the potential effect of a wildfire on the proposed CMRR-NF, and information on the Las Conchas wildfire was included in Chapter 3, Sections 3.2 (Land Use), and 3.7 (Ecological Resources).

Please refer to Section 2.6, Seismic and Geologic Concerns, of this CRD, which summarizes and responds to comments on seismic issues. The CMRR-NF would be designed and constructed to withstand natural and manmade hazards, including terrorist attacks. A classified appendix to the *CMRR-NF SEIS* addresses intentional destructive acts. The CMRR-NF would operate under DOE safety regulations and guidance, which require that safety analyses be routinely updated. Safety issues pertaining to the design and operation of the CMRR-NF and other nuclear facilities at LANL are subject to oversight by DNFSB.

in a way to make it safer.

And fifthly, I think there should be a continuous means of updating and renewing the certification of the safety of the installation, because as we have seen in the Japanese disaster, new problems, unforeseen problems constantly arise and they have to be incorporated.

Inasmuch as this is the safety planning stage, I think it is the most important time to handle this matter now to the best possible degree.

718-1 cont'd

I am in favor of construction of the laboratory, only -- let me emphasize only -- so that scientists can do their function in a safe and efficient way since the old building is probably too inadequate to work very much longer without curtailing activities.

By no means, however, should this be a reason for increasing weapons production, which all indications are we have adequate numbers right now. We actually are reducing them in the recent agreement with Russia. So there is no reason to produce more weapons. Our general tendency should be one of decrease of the weapons.

So finally let me emphasize that we need to increase the certainty of safety and increase the

718-2

718-2 NNSA notes the commentor's support for the construction of the CMRR-NF project but opposition to an increase in the number of nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information

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amount of trust that we convey to the general public. Thank you.

MR. MacALLISTER: Thank you, sir. Thank you, sir. (Applause)

David McCoy followed by Doug Doran.

MR. DAVID McCOY: Well, you have heard a lot of statements that indicate that the truth has not come out and that there has been serious damage to the environment for many years. How many of you people out there -- raise your hands, too -- feel that this is really a criminal enterprise which we have undergone?

Well, it seems that a lot of the DOE personnel have left, so at the next major meeting, I would suggest that the citizens get together and make a citizens' arrest of those people and have them thrown in jail. It would certainly make a statement that would echo around the world.

Now, I was speaking earlier about some of the problems of Kappa. You know, the site they have chosen is on soft volcanic ash, and it's going to shake like a bowl full of jelly, only in this case, you are not going to be shaking jelly or jello. You are going to be shaking plutonium, a lot of it.

Now, they need to know what the value of

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the Kappa is. That's the energy that comes up from deep in the earth and goes through these different layers, okay, and that's how much shaking you are going to get on these volcanic tufts, and it's going to be focused up on this mesa.

Now, they just did a study in California, Volume 26, No. 4, November 2010, "Earthquake Spectra, Professional Journal of the Earthquake Engineering Research Institute." We all know how famous California is.

They say other areas of bedrock, including the Santa Susanna and much of the Santa Monica Mountains and the Palos Verdes, Puente, and San Joaquin Hills are underlaid by sandstone and shale. Amplification in these areas results in shaking potential up to 75 percent more than firm rock. So when you have an earthquake at this particular location -- and you can have simultaneous faults earthquaking there, as Mr. Gilkeson explained -- you can have a much increased level of shaking because of that soft volcanic ash.

Now let's talk about how they determined Kappa. This is in the Updated Probabilistic Seismic Hazard Analysis from 2007 which they tout as resolving those problems. Listen to the language.

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I am an attorney, and I always look at language. I look at language for whether it's certain language or whether it's uncertain language. Does it connote risk? Does it connote that we are safe?

Now, listen to some of this stuff. For the new analysis, both segmented and unsegmented rupture models were considered for the Pajarito fault system, favoring the latter which is characterized by a 367 kilometer long floating earthquake rupture source. Floating earthquake rupture source, in other words, this thing just kind of floats around. We don't know where it's located. The preferred range at maximum earthquakes is for moment magnitude, 6.5 to 7.3. 7.3 is a whopper of an earthquake, and it's three times as strong as one of their other reports says they can have there.

In addition to the dominant Pajarito fault, 55 additional fault sources were included in the PSHA. Three aerial earthquake source zones were defined based on seismotechtonic provinces in the LANL region: The Rio Grande rift, southern Great Plains, and Colorado plateau.

Well, are these faults that we are talking about up by Los Alamos related to the Rio Grande rift? Just how big an earthquake can we have in

705-3

705-3 See Response to Comment 705-2.

this region, folks? I don't think we really know.

Because the epistemic -- oh, I love that word. That means you don't know what you don't know, so you just kind of go ahead anyhow -- because the epistemic variability was deemed insufficient as provided by the five attenuation relationships, they were all scaled to obtain a total sigma. In other words, they used computer modeling without real data.

They say, because any one seismic event was recorded at only a few sites -- and they didn't know if those few sites were actually explosions that happened or actually seismic events -- there was considerable uncertainty in their computed distances and depths, as well as measured amplitudes, uncertainty in the reliability of instrumental calibrations, full inversions to estimate Kappa and stress drop were not successful.

To compensate for the lack of region-specific attenuation relationships, the well-known Stochastic Ground Modeling Approach was used. Again, modeling. We don't have the data so what do we do? We model.

MR. MacALLISTER: Thank you, sir.

(Applause)

705-3 cont'd

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Doug Doran followed by Louise Baum.

MR. DOUG DORAN: Doug Doran. Thank you. Thanks to everyone.

How to make a target. The long-term plan is to make the local culture work for its own extermination. The plutonium factory will push the plan a long way down this path toward the ultimate goal. This is the sociopathic doctrine known as, "Manifest Destiny," supremacy of the white race.

Now, awareness of this is evident throughout the workforce at both LANL and Sandia, and that awareness poses by far -- by far the most serious threat to national security. In fact, awareness is the threat of threats, because it could cause projects guided by this Saurian doctrine to backfire. This explains the trouble and the faulty analysis that Greg caught.

I understand C.G. Jung said there are many people who are only partially conscious. Even among absolutely civilized Europeans, there is a disproportionately high number of abnormally unconscious individuals who spend a great part of their lives in an unconscious state. They know what happens to them, but they do not know what they do or say. They cannot judge of the consequences of

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their actions. These are people who are abnormally unconscious, that is, in a primitive state.

What then finally makes them conscious? If they get a slap in the face, then they become conscious. Something really happens, and that makes them conscious. They meet with something fatal, and then they suddenly realize what they are doing.

When it comes to LANL, I go up and down. I want them to shut it down and clean it up. (Applause)

MR. MacALLISTER: Thank you, sir.

Louise Baum followed by Elana Sue St. Pierre.

MS. LOUISE BAUM: Hello. I noticed when I came in a lot of very kind of sharp looking men with name tags. I kind of feel for you. I realize probably your careers, your livelihoods are caught up in having this building built. But I also know that you are all human beings. Probably many of you have children. You have bodies that are affected by radiation.

I think these are very intense times. A lot is going on now that they we thought was unthinkable. We really did not think that what has happened to Japan was a possibility. Obviously they

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719-1

719-1 NNSA acknowledges the commentor's support for cleanup of existing contamination. NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

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didn't think either that it was a possibility.

I think there is something called common sense and there is something called honor, and I feel as an American, I felt my country had both those qualities. But this project is telling me that it is really lacking. I mean, it's so clear that if you look at Japan, you know the unthinkable happens. You know people have not had enough imagination and enough commonsense to look at all the possibilities.

There was a tsunami. The backup generators failed because of the water. The earthquake affected things. All these things happened. This means millions of people in Japan have been radiated. The whole globe on the northern hemisphere is full of radioactive toxic clouds. It's coming down on all of us. It has gone completely around the planet.

This is the time to shut down activities that involve radiation. It's quite clear. It's commonsense. Let's look at it. Let's act on commonsense instead of our wishes for things to go back to a normal that really never existed.

It's not normal to be building weapons that can kill everyone on the planet. It does not

720-1

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720-1 NNSA notes the commentor's objection to the CMRR-NF project. There are fundamental differences between the functioning of a nuclear reactor (such as the Fukushima Daiichi Nuclear Power Plant) and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information. Chapter 4 of the *CMRR-NF SEIS* analyzes the radiological impacts associated with operations at the proposed CMRR-NF. The radiological hazards would be small. See Chapter 3, Section 3.4.3, regarding current radiological emissions at LANL.

NNSA notes the commentor's statement about activities involving radiation and opposition to nuclear weapons. Please refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information. NNSA also notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*.

DOE Order 420.1B "Facility Safety" requires that nuclear or nonnuclear facilities be designed, constructed, and operated so that the public, the workers, and the environment are protected from the adverse impacts of natural phenomena hazards including earthquakes and fire.

make sense. It's also not honorable to have a process in which you are constantly circumventing it and not living up to the rules. There was an awful lot of talk when I came in this room about the rules, about if someone talked long, they were going to be thrown out. They were going to stop the whole process.

You know, you have not followed the rules that have been put in place by DOE, that have been put in place by the Congress. You are not being honorable and you are not being honest. It is not right, and it also is very dangerous for all of us, for everyone here.

The thing we realize in Japan and we realize really in Chernobyl, because people in England were told not to nurse their babies after Chernobyl went off. This is not local. It is affecting us more if we have an earthquake, which is a huge possibility. If we have another fire like Cerro Grande, it's going to affect us more here, but it affects the whole globe. It affects the whole human race and every living thing -- the air, the water, everything. Does this make sense? It does not make sense.

720-1 cont'd

Let's make sense. Let's go back to

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commonsense. It's really simple. I mean, you look like a very intelligent man, but what about the commonsense in this.

I know this project has immense amount of momentum. It's carrying a lot of people's careers and hopes. I really felt for the people who came up and talked about how we need construction jobs. Well, we do, but there are so many things we could construct. We could keep people working. We could make our education systems much better with this money. This is not a reasonable or sensible thing to do, period. Let's stop it. (Applause)

720-1 cont'd

MR. MacALLISTER: Thank you, ma'am.

Elana Sue St. Pierre followed by Shannyn Sollitt, because Jan Lustig yielded her time to you.

MS. ELANA SUE ST. PIERRE: I would like to thank everybody for being here.

My name is Elana Sue St. Pierre. I am an occupational therapist providing home-based therapy for our community's most medically fragile infants. I am a spokesperson for Healthy Water Now, ASAP, representing over 300 parents with children with special needs, therapists, doctors, nurses, doulas, midwives, and child educators.

I speak for the children whose voices will

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hold everybody here accountable in days yet to come. The nuclear footprints of this nation's first weapon of mass destruction lies hidden in secret files, documents, and nuclear waste buried in the canyons between Los Alamos and the Rio Grande, this community's major source of water. Less than a hundred yards from the intake of this community's water supplies lies traces of plutonium and radioactive heavy metals buried only three feet deep within the Buckman well field and along the banks of Rio Grande.

Current radioactive clean-up standards and methods for radioactive clean-up do not protect us, they do not protect pregnant women and children. These silent yet deadly nuclear footprints may be seeping into our life-giving limited water supplies, becoming waters within the wombs, birthing lives plagued by deformity, sickness, and death.

The air we breathe, the soil that grows our food radiates background contamination from these nuclear bombs, nuclear footprints of the nuclear age threatening our national security as well as the health and safety of this downwind, down river, downstream community.

We intend that all funding for this bomb

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factory be redirected toward remediation of nuclear contamination that already threatens us. We intend there be reevaluation that prevents any nuclear bomb factory from being created in this water-scarce, seismographically active region. **721-1**

A few years back, the Pecos River flowed backwards due to an earthquake. The Valles Caldera was created when this planet's largest mountaintop was blown to bits by the earth quaking. And we all quake to think that our world's best scientists would plan to store over 13,000 pounds of plutonium in this unstable area. We ask that the billions of dollars earmarked for this disastrous plan be redirected for bio remediation and alternative research. **721-2**

We would like to hold a moment of silence for contemplation in prayer to honor and to give power to the voiceless victims of the nuclear age and that the weapons of mass destruction have already created over the generations.

My father, a World War II veteran, always told me I would not be alive if the bomb had not been dropped. He was ready to be shipped out to the front lines and would most likely have been killed. He felt I owed my life to those that made the bomb.

721-1 NNSA does not consider compliance with the Consent Order to be optional, and progress on implementing the Consent Order is not linked to decisions on construction of the proposed CMRR-NF. Please refer to Section 2.5, Cleanup and Waste Management, of this CRD for additional information.

NNSA acknowledges the commentor's concern for the need and location of the CMRR-NF. The geologic setting of LANL is described in Chapter 3, Section 3.5, of the *CMRR-NF SEIS*. The location of the proposed CMRR-NF is about 3,300 feet (1,000 meters) east of the closest mapped surface trace of faults associated with the Pajarito fault system. A trace of one of these faults underlies a portion of the existing CMR Building. Based on site-specific geotechnical investigations, no evidence of active surface-rupturing faults directly at the CMRR-NF building location were found (Gardner et al. 2009). At LANL, and for the CMRR Project specifically, facilities are designed to site-specific earthquake design criteria that are more conservative than those in the International Building Code so that the facilities remain safe in the event of a large earthquake. See Section 2.6, Seismic and Geologic Concerns, of this CRD for more information.

721-2 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

And so I stand here today, and I say, "Gracias, adios."

For today the kamikaze fighters have abandoned their planes, Hitler's bones have turned to dust, and the race to create a bigger and better gadget -- what they called the first bomb, the gadget -- it no longer serves a national defense purpose. It rather creates potential national disaster.

Germany leads the way away from nuclear energy and self-destruction. Japan is in a state of nuclear disaster realizing there is no safe place. Where the laws of nature rule, earthquake and nuclear stockpiles equate disaster.

The potential to transform and transmute the power of destruction into life sustaining technology lives in the hearts and the minds and consciousness of all of us here. To vision alternatives which protect innocent women and children is why I come here to this hearing. This silence we will hold carries the screams for help from the hearts and the wombs of our future. As we touch our hearts together from this place of silence, all answers can unite us beyond our dreams. And I will hold silence and ask that you hold

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silence.

(A moment of silence was observed.)

MS. ST. PIERRE: Thank you.

MR. MacALLISTER: Thank you.

Shannyn Sollitt followed by Adele Caruthers.

MS. SHANNYN SOLLITT: Thank you, Elana, for those poignant thoughts and words. And thank you all for coming.

My name is Shannyn Sollitt. I am a citizen of Santa Fe, New Mexico. I have been positing the idea of the Los Alamos Peace Project to transform the laboratories of weapons of mass destruction into institutions that engage only in life affirming research and development. For more than a decade, I have just been putting it in the ethers.

722-1

And this is not the first time these hearings have been held about this very subject. Why do you need to keep coming back to find out whether the citizens of northern New Mexico approve of this bomb factory at Los Alamos labs? Do you think that people's opinions have changed? Do you think that anything has changed?

LANL still sits atop a windswept mountain

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722-1 NNSA notes the commentor's opposition to nuclear weapons and concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

Current operations at LANL do not violate the Treaty on the Non-Proliferation of Nuclear Weapons, the New Strategic Arms Reduction Treaty, or any other nonproliferation treaties to which the United States is a signatory, nor would the operations that would be performed at the proposed CMRR-NF. Refer to Section 2.9, Treaty Compliance, of this CRD for more information.

in a seismic zone where wildflowers and contaminated runoff continue to threaten and compromise the health and well-being of millions who live downwind and downstream. Where does the government get the right to exert this form of cruel authority over the people here who repeatedly, year after year, have to leave their fields of endeavor and take the time to defend their communities against this form of tyranny?

Citizens have repeatedly spoken out and submitted written testimony to defend our rights to have air and water free from the horrible radionuclide contamination created by the lab, and you blithely want to create more. No. Our opinions do not change, and clearly our voices have not been heard, or you would not keep returning over and over just to test us to see if you have worn down the opposition of the citizenry of New Mexico.

722-2

These hearings are an exercise in futility that pretend to affirm that we still live in a democratic country. But you are not fooling us. These hearings have always been a sham and this hearing is a sham. Nuclear bombs are immoral. They are a vulgar and heinous crime against planet earth and humanity. The only worse crime against humanity

722-2 Comment noted. NNSA considers every comment received by U.S. mail, email, toll-free telephone or fax line, or at the public hearings. Consistent with the purpose and intent of NEPA and the implementing regulations, public comments assist NNSA in determining the scope of the analysis to be included in a NEPA document and in improving the analysis and range of alternatives evaluated. Refer to Section 2.2, NEPA Process, of this CRD for more information.

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would be the actual utilization of them.

Their very existence goes against the very tenets of freedom and prevention of tyranny that our founding fathers designed the constitution to protect us against, and those who perpetuate this crime are tyrants, despots, and traders to the constitution.

Please tell us how will this proposed factory protect the inalienable rights of US citizens to life, liberty, and the pursuit of happiness.

You may respond that the very existence of these weapons prevent war, and for that reason we must continue the proliferation of our nuclear arsenal. But since the inception of the nuclear bomb, the United States of America has been waging wars in at least 18 countries -- Korea, Guatemala, Cuba, Indonesia, Congo, Peru, Laos, Vietnam, Cambodia, Lebanon, Grenada, Libya, El Salvador, Nicaragua, Panama, Bosnia, Afghanistan, Iraq, and we fund wars and channel arms to Columbia, Mexico, and Israel.

The United States has been far and away the world leader in the development of weapons of mass destruction, and the existence of these weapons

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by our country holds the rest of the world in fear, has been the cause of nuclear proliferation, has shredded the fabric of global potentials for cooperative security that the whole rest of the world is yearning for. Let us call a spade a spade.

This plan to spend 180 billion over the next decade to modernize the nuclear weapons complex, this CMRR complex is being created to line the pockets of military contractors in bed with the legislators in Washington. So you traitors to the US constitution who have led us down the road to a failed democracy, you are out of compliance with the Nuclear Nonproliferation Treaty, the Strategic Arms Reduction Treaty. Traitors, cease and desist.

722-1 cont'd

(Applause)

MR. MacALLISTER: Adele Caruthers followed by Dominique Mazeaud.

MS. ADELE CARUTHERS: I am Adele Caruthers. I am an occupational therapist and a member of the Peace and Justice Committee of St. Bede's.

I do hope that you folks are listening, because what I heard tonight I will never forget. And I just have to say I moved here from the Boston area 20 years ago because of the beauty and the

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clean air and the just amazing state of New Mexico, and now I just can't believe what I am hearing, what is happening.

I feel like I am standing on a train track, and the train is coming full speed ahead. So how do I stop it? I can just learn what is the truth. I am trying to figure that out. Do you know what is the truth? Are you telling us the truth?

Six hundred billion for plutonium; is that right? Six hundred billion --

VOICES FROM THE FLOOR: Six.

MS. CARUTHERS: Six billion, okay. And we cannot afford to pay our teachers. Now we are closing schools and doubling up. So as far as the money is concerned, we have to think about the budget of the country.

We are asking other nations to disarm and pretending like we want to be nonnuclear, as Obama said, and what are we doing? We are doing exactly the opposite. Pretending, isn't that hypocritical for us to pretend and then do the exact opposite?

There are three things -- and I will be very brief -- but there are three things that I am thinking about, and one of them is the cost, the cost of building weapons. The second one is the

723-1

723-1 NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. CMRR-NF would operate under DOE safety regulations and guidance, which require that safety analyses be routinely updated. Safety issues pertaining to the design and operation of CMRR-NF and other nuclear facilities at LANL are subject to oversight by DNFSB. Seismic investigations and considerations are addressed in Section 2.6, Seismic and Geologic Concerns, of this CRD.

safety, which everyone has mentioned with the earthquake prone site, and the third is the morality of contaminating our beautiful land, our water, our air, and Santa Fe, to contaminate our own life, our planet. That's all I want to say. Okay.

(Applause)

MR. MacALLISTER: Thank you, ma'am.

Dominique Mazeaud followed by Joni Arends.

MS. ARENDS: I want to give my time to Bob Gilkeson.

MS. DOMINIQUE MAZEAUD: I am going to be very brief, Joni, so I can give my time.

I am Dominique Mazeaud from Santa Fe and before that from Europe. And I wouldn't be here without the goodness of America. I was brought up by a family, a father especially who kept talking about the arms of goodness of America. And this is why my destiny brought me here, and now I have been in Santa Fe for 24 years, before in New York.

And as I have been living here, I have discovered the arms of goodness of America are not so good. Now the arms are what we are talking about this evening, and I am just -- you know, my friends, people here have talked statistics and facts, and I'm not going to repeat them. But I want people to

723-1 cont'd

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remember, to me, as a new American, I really believe in the soul of this country. This is why I am here and I have stayed here all these years, but as I am staying here, my heart is broken, because I really feel the soul of America is being very compromised by these arms that she is making. Thank you. **724-1**

(Applause)

MR. MacALLISTER: Thank you.

Joni Arends followed by Mitch Buszek.

MS. JONI ARENDS: Good evening. My name is Joni Arends. I am with Concerned Citizens for Nuclear Safety.

I just want to provide some information about this project. For the construction alone, the laboratory is proposing to use about 4.6 million gallons per year of water in order to mix the concrete. That's about 11-acre feet per year. You could water a lot, irrigate a lot of farmland with 11-acre feet a year.

For operations, they are proposing to use 16 million gallons per year, which is about 49-acre feet per year. And it's really about choice, isn't it, about how we are going to use our limited resources, the limited water that's available. **725-1**

Another matter is that the Los Alamos

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724-1 NNSA notes the commentor's opposition to nuclear weapons. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, of this CRD for more information.

725-1 NNSA notes commentor's concern with water usage in construction and operation of the CMRR-NF. Water use for construction and operation under the Modified CMRR-NF Alternative would exceed that of the other two alternatives. As shown in Chapter 4, Tables 4–15 through 4-17, and discussed in Section 4.3.3 of the *CMRR-NF SEIS*, based on current water use and the projected use under the Modified CMRR-NF Alternative, water use at LANL is expected to remain below its allotment of 542 million gallons (2,050 million liters) per year. See Section 2.10, Water Resources and Usage, of this CRD for more information on water resources at LANL.

County and the lab own 1,200-acre feet of San Juan, Chama water. They haven't diverted any of that water yet, but the county has made a proposal to the Buckman board to be able to use the diversion site and run a pipeline across the river and lift the water about a thousand feet up to the White Rock water treatment facility.

I think it's important for people in Santa Fe to know that. It's under consideration right now. There are engineering studies being done. I don't think our intention in Santa Fe for the diversion project was necessarily to provide facilities for Los Alamos County and the laboratory to use the Buckman diversion project to obtain water.

This has been a very difficult process these last four days, and I think Scott and I have attended all four hearings. Each night the rules have changed a little bit. The rules have been tweaked a little bit. And it's not like the recent hearings.

The hearings that are held by the laboratory are much different than those that are run by DOE headquarters, and DOE headquarters runs hearings across the country for Programmatic

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Environmental Impact Statement under the National Environmental Impact Statement. And basically when headquarters is running a hearing, we know what to expect. We know there is going to be a court reporter. We know they are going to record the hearing. We know there is going to be a podium. There is going to be a microphone. We are going to be able to hear one another speak, because we learn and we find solidarity amongst ourselves.

But this whole adventure with this proposal for the nuclear facility has been very, very difficult. Even from the first scoping meeting in White Rock, where if you wanted to make comments, you had to go into another room and nobody else could hear you speak, and that there were poster sessions and we couldn't hear each other speak.

725-2 And NEPA, as Doug says, our voices empower NEPA, and we need to be able to hear one another. And many of us have been in these rooms for 10, 20, 30 years. And especially for the LANL proposals, it would seem that the laboratory would know who we are. And what our concerns are. As Shannyn said, you know, we have opposed this project for years, these proposals to expand the pit production.

And by not providing us with consistency

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725-2 NNSA acknowledges the commentor's concerns about the *CMRR-NF SEIS* public participation process and LANL water usage. Please refer to Section 2.2, NEPA Process, and Section 2.10, Water Resources and Usage, of this CRD for more information.

under the National Environmental Policy Act of what we can expect, it's really disheartening. And I hope that through this process, the laboratories, the Tonys, the Rodgers, the Johns, the Beths could put together a manual that mimics what happens at headquarters for these NEPA processes, and that it would be available on the web so that people can know what to expect.

This whole thing about seven minutes in Los Alamos, three minutes in Albuquerque, five minutes in Española, and maybe we will get five minutes here in Santa Fe tonight, it's getting very old. We are very knowledgeable. We are a very knowledgeable community -- I know. I have one more sentence -- we are a very knowledgeable community. We have been successful through this process.

725-2 cont'd

And we have to continue doing what we are doing, and we need to continue to speak truth to power. Thank you all for coming. (Applause)

MR. MacALLISTER: Thank you.

Mitch Buszek followed by Eric Wilson. Pardon me if I mispronounced it.

MR. MITCH BUSZEK: That's pretty good. It's Buszek like music, but close enough.

MR. MacALLISTER: Thank you.

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MR. BUSZEK: My name is Mitch Buszek. I come here as a parent of a 22-year-old daughter. I come as a veteran. I actually am a veteran for peace if you can imagine such a thing. We have quite a few of them here, and I have been involved in this nuclear mystery since I met Joni about 22 years ago.

I would like to thank some people for what they are doing and what they have done, and I would like to thank you for being here. This probably isn't the most delightful evening of the month. I would like to thank some people. Irwin was kind enough to talk about lineages and generations, and there are some people here that have really put their heart and soul into educating us about this issue and advocating for us.

Previous speaker Joni Arends has been a real beacon of light for a lot of us, and Holly Beaumont, who has done a thing or two here in the last few years.

Shannyn Sollitt, thank you for your work.

Dr. Jack Frenkel, I don't know you, but you sound like you have been at it for a while.

Jay Coghlan and the gentleman over here -- I didn't catch your name, but it sounded like you

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have been around this stuff for a while.

MR. DAVID McCOY: David McCoy.

MR. BUSZEK: David McCoy, thank you for being here.

I would like to make a suggestion. My sense of most of the speakers that I managed to hear tonight were addressing things like values and what is important to them personally and what is important to the community. We have talked about environment and health and safety. And I got a little talking to, as I talked to a couple of gentlemen out in the hall, and it's like the budget for this thing has been approved by Congress.

VOICE FROM THE FLOOR: No.

MR. BUSZEK: It hasn't been? Okay. Straighten me out on that. But they are proceeding as though it's funded. Is that accurate? Okay.

And I would like to suggest that the two most important people in this room to hear what we have to say are the representatives of our Congressional staff. We have a young lady here from Congressman Ben Ray Lujan's office. Is that you, Solidad? What is your name?

MS. JENNIFER CATECHIS: Jennifer.

MR. BUSZEK: Jennifer. And I think we

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have a representative from Senator Udall's office; is that accurate? What is your name?

MS. MICHELLE JAQUEZ-ORTIZ: My name is Michelle, and our office has been in all the meetings. We have been advocating very hard behind the scenes for some of what Joe, me, and Jay are pushing.

MR. BUSZEK: I really appreciate what some of our representatives have done. The two represented here tonight have really done the work.

I would like to suggest that the forum that would most suit us is a forum with Congressman Lujan, with Senator Udall, and with Senator Bingaman so that we can articulate to our elected representatives how we would like to spend our federal money and our tax money.

To take another step in that direction, we have got a very skilled moderator in the audience. Lorraine Nells back there in the back row is a talented TV interviewer and talk show host. I think we have the skill in this room to fill up both of these rooms and talk about the things that we care about and things that we value.

And I think these guys, oh, boy, I think it's a difficult thing. I mean, they are here to do

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a job. They are doing it as conscientiously and honestly as they can, but our values are just miles apart. And I think it's incumbent on us to pick the right people to talk to, and I think if we could get a forum with our representatives, that's really who needs to hear our pleas for help.

I think that's all I have to say. Thank you very much. (Applause)

MR. MacALLISTER: Thank you, sir.

Ma'am, can I ask the representative from Senator Udall's office to restate her name. The court reporter wasn't able to catch your name, and we would like to have it since you spoke from the audience.

MS. MICHELLE JAQUEZ-ORTIZ: Do you want me to state it out loud or do you want me to go up there?

MR. MacALLISTER: If you will just state it, I will restate it for you.

MS. JAQUEZ-ORTIZ: It's Michelle Jaquez-Ortiz. It's like Jaque with a z at the end, dash, Ortiz. I am the senator's northern New Mexico field representative. I was at the Los Alamos meeting, the Española meeting to the end, by the way, last night. It ended very late. And then we

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had Bill Wald at the Albuquerque meeting.

MR. MacALLISTER: Thank you, ma'am.

MS. JAQUEZ-ORTIZ: We also weighed in on the Taos meeting as well.

MR. MacALLISTER: Thank you, ma'am.

Our next speaker is Eric Wilson followed by Sam Hitt.

MR. ERIC WILSON: My name is Eric Wilson, and I think I want to tell a little bit of a story today, because everyone has so many more facts than I really do. But I have opinions, and the story is about when I was a kid, and I had a fish. I got a fish for my birthday in a little round bowl, and I really liked that fish. It was really cool.

One day I decided it would be really cool so that the first thing you saw when you came into the house, and we put that fish bowl right on the very end of the stairway banister. We had a nice little round place there, and I put it there. My mom told me we couldn't keep it there. I was like, well, it was great there. I showed her. I set it there and it stayed there and it didn't fall off. It was very safe there, I thought. She said, you know, you don't understand. It's just not safe there.

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One day when she was away, I put it back there. My friends came over. We were rough housing around again. Sure enough, it fell right off and smashed on the floor. The fish didn't do so well. The whole thing went to hell.

And I guess I kind of see this project in the same way. People are saying that it's safe, people believe it's safe, but I think the information isn't really there.

The story goes on a little bit, because then I started asking my mom like, you know, if I could get another one. And she was like, well, you know, you could get another one, but it was your fault that it got destroyed. She goes how about this, instead of going to -- there was a great place called Story Town that we went to every year. Instead of the trip to Story Town, we will get you another one.

Well, I didn't really want another fish as much as I wanted to go to Story Town, so I didn't go for that. I think that's also kind of the same thing. We are having conversations in Congress this week about what we had to cut out of our budget in order to be able to send disaster relief to Joplin, Missouri, where they are suffering. I never thought

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that conversation would ever have happened in our country. We would always take care of people like that.

But in a time when we are having that kind of conversation, I think we need to look at our priorities. Should we be looking to spend this kind of money on this kind of project, or are there more important priorities for us at this point in time? I think without question, if you ask every person in the country what their priority is, building more nuclear weapons or taking care of disaster relief and educating our children and converting to a sustainable economy, I think overwhelmingly people would say, yes, of course.

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But that's not really the point. The real point here is: What are we trying to do? We are trying to make more nuclear weapons. We are talking about not just like we need them immediately, but we are building a facility that won't even be doing it for a long time, investing a lot of resources in that, because somehow we believe that in the long-term, in the future, we are still going to need nuclear weapons. And for what?

I mean, I really thought at some point -- a long time ago I had a lot of hope in our country

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as I was growing up, because it really seemed like we were moving in a good direction. I thought that once we used nuclear weapons, that we really had learned our lesson. We were going to move away from that.

Instead now, at a time when we have no -- I mean, I don't know if we are expecting these are going to be useful against some theoretical opponent that's going to come from outer space. I really don't see what the point is. Who wins with a nuclear weapon? Who wins when even one nuclear bomb ever goes off for any reason? Nobody really wins.

I really think there are three things we really need to think about. One is, this is crazy. Just, I mean, most people when I talk to them about it, they say, well, what's it for? And when I say just to build more nuclear weapons, they are like, I didn't think we were still doing that. I thought we were dismantling our arsenals.

But then when you get it back to the amount of money that's involved. Take it back to, even if it were a great idea and we are at the peak of our economy, we had all the resources in the world, why in the world would we stick it on that banister where it's so likely that there is a

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problem. If we had to, if we really had a need for nuclear weapons and we had to build them, why in the world would we choose this place to do it? It just doesn't make any sense from the very top to the bottom.

So I really hope we can stop this. I hope there is a real reason for this hearing, that this hearing is really an opportunity, well, everybody here was against it. Okay, here we go. We are not going to do it. I suspect that's not the case. So I hope -- I hope our congressional representatives not only go back there and fight for this, but make sure that the awareness is there for the whole congressional delegation, that if you want to save money, here is a great place to start. (Applause)

MR. MacALLISTER: Sam Hitt followed by Reverend Holly Beaumont.

MR. SAM HITT: Thank you very much. My name is Sam Hitt, and I am a concerned citizen with a long time interest in the NEPA process.

Just to remind us all, that NEPA is the charter for the protection of our environment passed in 1969. It's really the software that we have in our democracy to avoid tragic mistakes, to make informed decisions, and to create a future for our

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children that is long-term and sustainable.

And key to the implementation of NEPA, as contained in the implementing regulations, is this phrase that I think everyone should keep in mind, that public involvement will occur, shall occur, to the fullest extent possible. This is legal language, to the fullest extent possible.

Now, to me that means not a highly managed process like we are having tonight, where we are limited to five minutes to make our dog and pony show. No, no. It's when we sit down with the drafters of this document, with the people who are putting together this project, who are making key decisions every day, and discuss and sit at the table with and have access to the information that is behind the words, so we really can be informed citizens, so we really can exercise this function of directing our democracy, of not just being pawns and not just being little cogs in the machine, but actual actors with a great deal of power.

I have reviewed somewhat the Supplemental Draft Environmental Impact Statement, as in most cases, there is an emphasis on the direct impacts, but there is very, very little discussion of the indirect impacts or the cumulative impacts. These

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728-1 NNSA notes the commentor's concern regarding the discussion of cumulative impacts. Chapter 4, Section 4.6, of the *CMRR-NF SEIS* addresses cumulative impacts of LANL and regional activities on key environmental resource areas, including electrical use, water use, waste management and health and safety.

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are key to the environmental consequences that have to be evaluated. So I would urge that this document be reformatted, and that every time there is an issue, cumulative indirect impacts are discussed, as many other agencies do in their NEPA process, so the public really has a chance to evaluate, particularly the cumulative impacts.

728-1 cont'd

Now, we can't just rely on local government and state agencies and others to respond to letters and inquiries about what they think the cumulative impacts would be. No, no. We have to, the laboratory and citizens have to go out and seek out that information. We can't just be passive recipients, and I did not see that in the current document.

Also key to me is the evaluation of alternatives. There are three alternatives being evaluated in this case. I think a very reasonable alternative would be to look in detail at abandoning the current structure and not building the new structure. That's more than just no action, which is required by the regulations. That's actually an affirmative alternative that would implement, I think, what would be desired by most taxpayers in this country and, of course, many people in this

728-2

728-2 Although many commentors expressed a preference for an alternative of taking no action at all, that is, neither operating the existing CMR Building nor constructing a new CMRR-NF, such an alternative does not meet NNSA's stated purpose and need to continue to provide mission-critical analytical chemistry and materials characterization capabilities beyond the present time in a safe, secure, and environmentally sound manner (see Chapter 1, Section 1.3, of the CMRR-NF SEIS). The No Action Alternative included in the CMRR-NF SEIS is based on the 2004 ROD for the 2003 CMRR EIS (69 FR 6967). See Section 2.11, Alternatives Considered, of this CRD for more information.

room.

So I think that's about it. Thank you very much. (Applause)

MR. MacALLISTER: Thank you, sir.

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MR. MacALLISTER: Reverend Holly Beaumont, followed by Rebecca Ortega.

REVEREND BEAUMONT: Good evening.

I'd like to start this evening by thanking Nuclear Watch and Concerned Citizens for Nuclear Safety and also Cultural Energy. I don't know if we have written checks recently for these organizations, but I think it's one of the best ways you can invest in helping us to create the kind of community that we hope to achieve, by doing more than just this. These organizations really need money.

I also want to thank all of you for being here. I know there was a debate going on about whether we were wasting our time or not, and I was reminded at an event earlier today that was held by Department of African-American Affairs, a quote from Martin Luther King, Jr.: "Our lives begin to end the day we become silent about things that matter." So thank you for being here.

In 2006, Los Alamos National Laboratory became a stunning example of privatization of public property when the Bush administration handed it over to Bechtel. The lab's historic record of patriotic service to this country, however misguided, was replaced by a maniacal, insatiable drive for profits.

729-1

729-1 DOE and NNSA continue to provide oversight of LANL as in the past. The managing and operating contract for LANL was openly competed in 2005 for the first time in the 63-year history of the LANL site. Through 2005, the University of California had been the sole managing and operation contractor for the LANL site since its creation in 1943. The new managing and operating contractor, Los Alamos National Security, LLC, began managing LANL in June 2006. The selection of a new managing and operating contractor did not change the DOE and NNSA work performed at LANL.

So who is Bechtel? Well, I've been using this as an opportunity. I clearly am opposed to the project, but I'm increasingly concerned to learn about our new neighbors. I call them -- well, I call them "Bechtel on the Hill." That's one of the friendlier names. But who are these people?

Bechtel Enterprises is headquartered in San Francisco and is a privately held firm and the world's largest engineering construction company. There are just -- oh, Bechtel estimates that it has built 40 percent of U.S. nuclear capacity and 50 percent of nuclear power plants in a developing country. God bless them. Bechtel received a ten-year contract in December 2000 with the U.S. Department of Energy to design, build and start up waste treatment facilities at Hanford that will transform liquid radioactive waste into a stable glass form, a process known as vitrification. And I'm just beginning to learn about this, but it's scary. These are just a few -- these are a few more of the notable Bechtel projects.

Bechtel built the San Onofre, California Nuclear Plant on a major earthquake fault line, and installed the seismic braces backward, meaning the braces will increase the impact of an earthquake rather than reduce it. Good work.

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Bechtel has also been sued by former employees of the plant for exposure to radiation.

Three Mile Island cleanup. Bechtel was invested [sic] by the Nuclear Regulatory Commission, who found that -- was investigated by the Nuclear Regulatory Commission, who found that Bechtel -- I quote -- "improperly classified modifications to the plant as not important to safety in order to avoid safety controls." In 1985, the NRC fined Bechtel for harassing and intimidating workers who complained about these lapses.

The Radioactive Campaign reports that their sampling efforts along the Hanford Reach of the Columbia River, begun in 1983 with Greenpeace, has revealed evidence of Hanford's still secret production of uranium-233 for many nuclear battlefield weapons.

In 2001, TRAC found that 60 percent of the Hanford Reach and seven out of ten major salmon spawning grounds were contaminated with by-products from U-233 production.

In 2002, TRAC discovered a previously unreported discharge pipe that may have been used to discharge radioactive waste directly into the Columbia River.

Now, I wanted to say something about water, based on Joni's concerns -- raising those concerns.

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Through subsidiaries and joint ventures in the U.S., Europe and, infamously, in South America, Bechtel was also involved with over 200 water and wastewater treatment plants; the privatization of water in Cochabamba, Bolivia resulting in exorbitant water prices, as much as 1- to 300 percent increase. Mass demonstrations in Bolivia in opposition to the water system eventually forced the reversal of the contract, and then Bechtel attempted to sue Bolivia, an impoverished nation, for $50 million because they were losing $30 million in profits they spent cleaning up what was left behind by the previous owner. $30 million is, for Bechtel, one half of their daily profits.

I will close.

If the CMRR is, in fact, necessary to our national security, then it is far too important and, in light of Fukushima, potentially far too dangerous to be entrusted to a corporation like Bechtel, with your [sic] abysmal, indeed criminal record of environmental degradation, human rights abuses, cost overruns at taxpayers expense and the privatization of community commodities -- public commodities. *729-2*

Thank you.

MR. MacALLISTER: Rebecca Ortega, and then I will begin calling people who had stepped out or who

729-2 Regarding the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

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had yielded their time.

MS. ORTEGA: (Greeting in Native American language; no translation.)

It is with respect that I come here today. My name is Rebecca Ortega, and I am from the Pueblo of Santa Clara. I'm a tribal member from Santa Clara Pueblo.

Our pueblo sits directly downwind from Los Alamos, and, you know, it's really, really sad that all of this stuff that's going on at Los Alamos is contaminating the water, the air, the land.

And on top of that, Bechtel, which the young lady just mentioned, is here -- it's a for-profit organization. They're not here for us. They're not here to give us jobs. They might say, Yes, we're coming to bring you jobs. But guess what kind of jobs? They're giving us janitorial, secretarial, all the low-end jobs. I know for a fact that they are bringing their own top people that they're paying top dollar, $300,000 a year, $200,000 a year, you know. They're bringing their own people.

But why do we live in New Mexico? Why do so many people come to New Mexico? Because they love New Mexico; because it's beautiful; it's clean. You know, we have a lot of culture here. It's peaceful.

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But guess what? If we don't stand up to what's going to be coming up in Los Alamos -- it doesn't matter if it's scheduled for 5 years or 10 years or 15 years. If we don't stand up for it, our children and grandchildren and our great-grandchildren will not enjoy the same kind of life and beauty that we are living in right now. And it's going to be our fault.

Yes, I know a lot of people say, Well, you know what, you can go there and talk against whatever the government wants, but you know what, I had to come today to say how I feel and what's in my heart and what I see. Because if I don't -- yes, maybe Los Alamos Labs -- maybe they're still going to do what they want, because just look at what they're doing to us right now. The government -- the government does whatever they want.

If they want to raise the prices to us for $3.73 a gallon, $4.00 a gallon in some places -- I went up to TA for jury duty about two, three weeks ago: $4.05 a gallon up in Chama.

Now, then about two, three weeks ago, I'm watching World News, Diane Sawyer. Diane Sawyer says, Well, you know what, Exxon, Chevron and all these oil companies have already, the first quarter, made a $32 billion profit. And guess what? On the backs of all of

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us Americans.

If this was happening in some other country, wouldn't we be the first ones to say, Why are those poor people losing their houses? Why are people being thrown out, in foreclosures? Why are they being charged exorbitant prices for food? Why are they being charged exorbitant prices for gas? You know, I'm just wondering about all those kind of things.

And like I said, I am from the Pueblo of Santa Clara. I am from Santa Clara Pueblo. And the sad thing is that -- we have to live together. We live together, what, 2-, 3,000 people. The reason we live together is because that is the way we can maintain our traditions, our culture, our dances, our language. We cannot -- we cannot go away and try to get together and, oh, yeah, you know what, we're going to have a corn dance today; oh, yeah, we're going to have this dance today. How can we? That's why we live together, because we come together; we practice our dances; we practice our songs, our traditions, our culture, our language.

If -- and which I'm saying probably not even if, but when all of our land, our water and our air is contaminated, where are we going to go? What city, what state is going to accept 2-, 3,000 Native Americans

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to come there to live together to continue the culture? It isn't. And what's going to happen? It's another form of let's get rid of those Indians. Terminate, you know. This has been going on for a lifetime, and this is just another form. Except this time, it's not just going to be the Native Americans that are going to be driven away from their homelands. It's going to be everyone else that's in this room that came here from somewhere else because they wanted to live in peace and beauty. You know, it's just really sad.

And not only that, look what happened in Japan. Did we not learn from that? Did we not learn from that? That is just crazy.

730-1

You know, I just feel like in the next few years, when our land is contaminated, what are we going to tell our children, our grandchildren when they have major health problems, when there is no clean water, when there is no clean air, no clean land? And the government's going to say, Hey, guess what, your land is condemned; you have to move away from there. Like I said, where are we going to go? They'll tell us, You're on your own, buddy.

You know what, we have no money. We have no money for health care even for us now. But guess what? Congress has the best money [sic] for themselves,

730-1 Regarding the commentor's concern that an accident similar to that which occurred recently in Japan at the Fukushima Daiichi Nuclear Power Plant could happen at LANL, there are fundamental differences between the functioning of a nuclear reactor and activities at LANL. The type of radiological accident that occurred at the Fukushima Daiichi Nuclear Power Plant requires a large source of energy that is produced from the fissioning of nuclear fuel. The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. Refer to Section 2.8, Nuclear Accidents, of this CRD for more information.

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but what about for the rest of us? Nothing.

MR. MacALLISTER: Your time is up, ma'am.

MS. ORTEGA: Okay. One more sentence.

MR. MacALLISTER: Sure.

MS. ORTEGA: I absolutely do not want to see any more plutonium labs built up in Los Alamos. We have to have respect for life. We have to have respect for each other. We have to have respect for our children. We have to have respect for our mother earth. And we have to have respect most of all for what our Lord God has given us, and he has given us this planet to cherish, to use and respect.

730-2

MR. MacALLISTER: Thank you, ma'am.

(Applause.)

MR. MacALLISTER: Thank you, ma'am.

I will cycle back through the people who may have stepped out or they may not be here or people who have yielded the floor in the order in which I had originally called them.

The first person I'm calling is Jennifer Sequeira. Is Jennifer here?

The next person is Bridjette Kennedy? Is Ms. Kennedy here?

MS. KENNEDY: I had deferred my time to Robert Gilchrist.

730-2 NNSA notes the commentor's opposition to more plutonium labs. Refer to Section 2.1, Opposition to the CMRR-NF, Nuclear Weapons, and Nuclear Technology, and Section 2.4, CMR Mission, of this CRD for more information.

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MR. MacALLISTER: Yes. And we're now through everybody, so if you want to speak now, you're welcome to.

MS. KENNEDY: Okay. Yeah. Thanks for coming to speak your heart for -- for the love of this beautiful place. And a social responsibility of money is a good one. Jobs for a peaceful economy is better than to proliferate wartime, the nuclear and military industrial complex. Over 50 percent of our tax-paying money goes there, and it's -- it's a very powerful thing to come up against and say that it's wrong.

731-1

My father was involved with the nuclear industrial -- military industrial complex, being involved with engineering intercontinental ballistic missiles, radio tracking devices and Star Wars. And I give thanks to my father, who recently died, to teach me the importance of the social responsibility and how you earn your living. So I became a landscape architect, thinking I love the planet and I want to make it whole and beautiful again and help heal the planet.

And so the first job that I was given was the design -- being involved in the design of a military base for the nuclear weapons on submarines, a military support base in Kings Bay, Georgia. And so I told them, Yeah, this is a great landscape architecture office, but

731-1 NNSA does not make decisions on the funding priorities of the U.S. Government. Funding decisions on major Federal programs (for example, education) and projects at LANL are made by Congress and the President, and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for additional information. The purpose of the *CMRR-NF SEIS* is to evaluate the environmental impacts of alternatives related to the proposed CMRR-NF. Refer to Section 2.7, Economic Impacts, of hit CRD for information on the economic impacts as evaluated in the *CMRR-NF SEIS*. Refer to Section 2.5, Cleanup and Waste Management, of this CRD for information about LANL environmental remediation activities.

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I have to quit because I believe in social responsibility.

And, you know, my dad did it because he wanted to put us through college. Money is important, but social responsibility means living the truth of your conviction of life-affirming processes. And I hope that we have a future in this world to have a peaceful society where love and helping others is a priority and destruction and pollution and hazardous waste and --

The peacemakers of the Hau de no sau nee people created the first democracy in America. And his premise is to bury all weapons under the Sacred Tree of Life and let those roots grow in four directions for the seventh generations, as well as Hau de no sau nee premise that was -- that the peacemakers spread the word of peace in Upstate New York. And I hope -- I hope for a future of peace and burying all weapons and letting that grow in the four directions. And this is a great place to start right here, where we live in the shadow of -- of a defunct nuclear and military industrial complex.

Thanks.

(Applause.)

MR. MacALLISTER: David Bacon.

MR. BACON: The fact that I've only heard

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two other people from Santa Clara, but I think if we had maybe 25 more out, we could win this thing tomorrow. It's got to be a very impressive community.

We heard from Marian Naranjo and her grandson from Espanola, and it was a powerful -- empowering testimony.

I think that part of the difference we're seeing tonight is some -- some fascinating struggle that I see, having been to the Espanola, Albuquerque and then this hearing. And there is a tremendous struggle going on here that we don't really see very clearly. The labs are involved only, basically, in massive -- the most massive violence and brutality imaginable to man.

I have a prayer here from -- Chatral Rinpoche's is a 90-something-year-old lama now. And I'm not going to read it, but I have it out back for those of you who are interested. And in it, he prays for the end of this demon war, this violence that goes so far beyond anything that any of us could imagine as simple human beings. And yet within this struggle, we have these voices that we're hearing from our community that are so powerful, so clear, so right down the line in terms of truth, truth at every level, the spiritual level, the emotional level, the data level. It's an astonishing and wonderful thing to see.

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And I was thinking of the difference between the terms "power" and "empowerment," and the labs do not empower. They hold power over. They hold power over us, over the planet.

A nuclear weapon is simply the most violent form of power that anyone could hold over anything on this plant. As Shannon said, it's just a -- it's just a massive form of tyranny, and yet our stories clash, because the lab's story can never be told honestly. They will never allow it to be told as an honest, straightforward story, that we are only involved in the destruction of all life on the planet. This is a story that is too monstrous to even begin to tell.

So our stories -- there's a -- there's a question as to. As to whether these -- these hearings are legitimate, but I was telling Zubie [phonetic] of the radio show, activists don't participate in legitimate stuff. Activists participate against illegitimate stuff. That's what we do.

And what I'm hearing from the activist community up and down the Rio Grande, I feel maybe we should tip our hat to Bechtel because I feel that what Bechtel woke up in Bolivia, they're finally waking up here in Northern New Mexico.

And what about our communities -- the

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pueblo and communities that suffered the initial hit from this thing, because there weren't many other people living in the area back then? And as Erwin Rivera so eloquently stated, the land grant communities on the Pajarito Plateau. So it's the older communities, the deeper communities that I feel are going to take -- that are going to guide us now, that are going to show us where we need to go. And the growth from just a few, 50, 60, people at these hearings who speak so eloquently, I feel it's going to grow now. And I feel we're seeing a movement evolve in Northern New Mexico. And where I see the difference in the movement from the past to now is that people are not only saying no to things like the CMRR building, which is a fairly prosaic argument, but they're saying yes to the life on the planet and to the life of the communities that exist up and down the Rio Grande now. They're saying yes to the wisdom of the people. And they're saying, That money that you're throwing away on nuclear rat holes belongs rightly to us and has to be put to use for life now, life on the planet, restoring the planet, cleaning up the mess of Los Alamos and completely eliminating what my good friend Kathy Sanchez calls the culture of violence.

And she said last night, in Espanola, that

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we're all so blown out by the culture of violence because alone we hardly ever confront it as what it is. Together, in rooms like this, our legitimacy can begin to come forward in so many different ways that we then confront the culture of violence, and it's where this is going to go that I think is so exciting now and it's real. This isn't make believe.

We have a lot of work to do, but it's really the only work that we have right now. It's the only legitimate work that we really have. And I feel that in Northern New Mexico, we can begin to focus on this issue, our bioregion, the damage done to it and the political reality that can come out of healing our bioregion, and it'll be wonderful.

732-1

Thank you.

MR. MacALLISTER: Thank you.

MR. BACON: By the way, anyone who doesn't know Robin (indicating)? He's like Bodhisattva reporting these meetings; Cultural Energy from Taos.

(Applause.)

MR. MacALLISTER: John Withan.

MR. WITHAN: John Withan with Nuclear Watch New Mexico.

As part of an organization that's really trying to do an analysis of this document, as blah as it

732-1 NNSA notes the commentor's opposition to the CMRR-NF

NNSA notes the commentor's concern regarding the funding priorities of the U.S. Government. Funding decisions regarding major Federal programs and projects at LANL are made by Congress and the President and are not within the scope of the *CMRR-NF SEIS*. Refer to Section 2.3, Programmatic Direction and Decisions, of this CRD for more information.

seems to be, I'd like to point out that the numerous references that were cited in the document were not only cited by a generic name that sometimes points to a 1400 page document that's a photocopy without any page reference, and many of the reference documents were not placed online at the time that the SEIS came out.

So in doing formal comments and doing research for the formal comments, it makes it difficult if not all the references are available, and when references are cited, they are cited so generically that if one cannot actually do a word search on that document, it takes a vast amount of time to find what that reference is. And that's all I have to say right now.

733-1

MR. MacALLISTER: Thank you, sir.

Liz Rando? Liz Rando?

She had yielded earlier to David McCoy.

Liz, are you here?

Is there anybody who has not had a chance to speak yet who would like to speak at this point?

Is there anybody who would like to make a follow-up statement at this time?

And one thing, when you make your follow-up statement, it's very important to give your name so that the court reporter can have it, since I won't be

733-1 Problems with links to references that may have been experienced during the public comment period were corrected as soon as they were identified. In addition, the references were placed in a number of libraries in the area surrounding LANL as identified in Chapter 9 of the *CMRR-NF SEIS* and the Notice of Availability for the *Draft CMRR-NF SEIS* (76 FR 24018) published on April 29, 2011. Regarding the references cited in the comment, LANL 2010d was checked on the NNSA website and the link labeled “LANL 2010d” in the “References” page NNSA’s *CMRR-NF SEIS* page (http://nnsa.energy.gov/ nepa/cmrrseis) connected to “http://nnsa.energy.gov/sites/default/files/seis/CMRR%20NF%20Project %20and%20Environmental%20Description%20Document%20Final_LA-UR%2010-07497.pdf,” which brought up a copy of the correct reference document, “CMRR-NF Project and Environmental Description Document (LA-UR-10-07497).” LANL 2011 is included at the bottom of the reference list on the NNSA website because it is broken into a number of sections.

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announcing people. Thank you.

MR. McCOY: Dave McCoy.

One thing I'd like to mention is, we're focused on the CMRR, which is one little piece of the planet. We've got 104 nuclear reactors operating. There are 444-odd nuclear reactors in the whole world, 38 of them sited in highly dangerous seismic areas. We've got White Sands, Alamogordo, Sandia Laboratories, Kirtland Air Force Base. What we're doing is making atomic deserts all around the planet day after day, year after year.

An 8-million gallon jet-fuel spill at Kirtland Air Force Base. They've trashed the aquifer for Albuquerque. They're not really telling you how bad it is.

568 nuclear and hazardous waste dumps across Sandia Labs and Kirtland Air Force Base and Albuquerque. You've got the mixed-waste landfill, million and a half -- 1,500,000 cubic feet of hazardous waste over Albuquerque's drinking water in unlined pits and trenches. Other sites at Sandia dump billions of gallons of contaminated water.

The NMED doesn't really look closely at this.

You've got TA 54, Areas G, H and L up at

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Los Alamos.

You think people are going to be able to live on those sites? They're not. Nobody's living where they exploded the first atomic bomb. Nobody's living out at the Nevada Test Site, you know. We're doing this all around the planet. This is like a terrible, terrible cancer that's spreading. Fukushima is just an example.

Roger Snyder, back there, he says -- I mean, this guy only takes notes when you attack the NEPA process or the SEIS. He doesn't care about values or how heartfelt we feel about this. He's only listening to NEPA arguments or arguments as to why the SEIS is not an effective valid document. Okay? But you hear them talk about, well, we can't change the goal of national security. And why can't we? Well, because the President and Joe Biden have said that we've got to have this pit production. Okay?

Well, I submit to you that this is too much power to be placed in the hands of one person or two people in the first place and that we have to get to President Obama and tell him that we don't want this. But also the Roger Snyders and the others out there at LANL have to be honest for a change and go to the President and Senator Biden -- or Vice President Biden

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now and say, Look, we don't need these. This is a dangerous area. It's just going to create more contamination.

What would the explosion of 13,000 pounds of plutonium be like? I keep wondering about what that would be like if that came together.

Now, we've got this enormously hefty building that's sitting there, and they expect it to float on this soft volcanic ash. Well, this is really ludicrous, you know. Inside they're going to have these huge tanks of water; they're supposed to suppress the plutonium fire if they have one. But in an earthquake, we know what happens. Equipment isn't available. Are all the components and the pipes and the backup generators going to be available to release this water? Well, there's what you call hydro wetting, you know. Once all that water might escape from the building, it gets down in that volcanic ash, you're going to have -- you're going to have first-rate slush.

So the heat from all this plutonium; the plutonium's got to be kept in some kind of tanks, cooled with water. That's going to be an incredible weight in its own right.

How much is this building going to weigh, by the way? I never did find that number in the SEIS.

705-4

705-4 Fire protection water storage tanks would be located inside the Modified CMRR-NF. The building and its components would be designed to survive earthquake damage. The fire suppression system would be operated by backup generators in case of a power outage.

Subsequent to the original proposal for the CMRR Facility and preparation of the 2003 *CMRR EIS*, updated seismic hazards analyses of the LANL region were issued (LANL 2007, 2009) and site-specific geotechnical evaluations of the proposed CMRR-NF construction site were performed (Kleinfelder 2007a, 2007b, 2010a, 2010b). The updated seismic hazard analyses (LANL 2007, 2009) provide a better understanding of the ground motion and seismic behavior of various geological material layers occurring at LANL. The Kleinfelder reports provide additional detailed information and structural evaluation of the proposed CMRR-NF building site. This information translated into design changes related to the structural requirements for the proposed CMRR-NF so that the building and equipment within the building would be able to withstand a design-basis earthquake without major damage. The design of the CMRR-NF is still under way and will continue to evolve. The revised design is reflected in the revised cost estimates. Per DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, final or detailed design cannot be started until the NEPA document (Final SEIS in this case) has been completed, so as not to prejudice the outcome, or restrict or narrow the range of alternatives to be considered.

Site specific geotechnical investigations have been completed for the proposed CMRR-NF project site for both the Shallow Excavation Option and the Deep Excavation Option and recommendations issued related to the design of the CMRR-NF (Kleinfelder 2007a, 2007b, 2010a, 2010b). Such recommendations take into consideration potential sinking, including seismically induced and non-seismically induced settlement, and lateral shifting of the foundation. The *CMRR-NF SEIS* has been revised to include this information. Refer to Section 2.6, Seismic Concerns, of this CRD for more information.

The Kleinfelder report accounts for the weight of the building and demonstrates that the bearing capacity of the soil (20,000 pounds per square foot [97,600 kilograms per square meter]) is substantially greater than the pressure due to the building (4,850 pounds per square foot [23,700 kilograms per square meter]) for the Shallow Excavation Option (Kleinfelder 2007a). Under the Deep Excavation Option, the addition of 60 feet (18 meters) of low-slump concrete would increase

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Write that down. We want to know what the weight of the building is going to be when you finally get done with it.

Do you know?

MR. KOVAC: Yes.

MR. McCOY: What is it?

MR. KOVAC: 400- -- 490 million pounds.

MR. McCOY: 490 million pounds. And an earthquake occurring, and we don't even know what the size of it potentially is.

I want to tell you something. I dealt with Bechtel when I was 27 years old as a -- as a nuclear intervenor. They wanted to expand spent fuel storage at the Trojan Nuclear Reactor. And I found secret documents from the state geologist that were suppressed, and those documents said they could have an earthquake twice what the Trojan Nuclear Power Plant was designed to withstand on the Columbia River. Okay? That's Bechtel.

You're right, Holly.

(Applause.)

MR. MacALLISTER: Thank you, sir.

We've got time for another speaker or so, depending on how long people go. Is there somebody else who would like to speak?

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705-4 cont'd

the weight of the building by about 980 million pounds (440 million kilograms). The weight of the soil that would be removed for this deeper excavation is estimated to be about 740 million pounds (340 million kilograms). Under the Deep Excavation Option, the building would sit on rock and there are not similar concerns related to allowable bearing pressure of the soil under this option as opposed to the Shallow Excavation Option. A draft slope stability analysis has been prepared and determined that indicated that global slope stability is not an issue for the Deep Excavation Option (LANL 2011a:LANL site, 028). If the Deep Excavation Option were selected, as part of the ongoing design and evaluation process, studies would be completed to verify that all geotechnical stability issues had been addressed.

The plutonium metal and oxide used at LANL cannot produce a sustained nuclear reaction by themselves and do not produce large amounts of decay heat that require the use of active cooling systems. For more information on this issue refer to Section 2.8, Nuclear Accidents, of this CRD.

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Anybody else who would like to speak?

All right. Then at this point, I will officially close the meeting.

And thank you-all for your attendance, and I thank many of you for your attendance multiple times. Your stamina is applauded. Appreciate it.

(The public hearing concluded, 8:56 p.m.)

(5:46 p.m., non-public comment of Doug Doran provided to Court Reporter Mary C. Hankins.)

MR. DORAN: I would like to read four comments written by Bob Walsh, W-A-L-S-H, of Santa Fe. So I'll just read them as they're written here.

"I now provide" -- if I go too fast -- "I now provide the following four comments on the Draft Supplemental EIS.

"Number one: Please provide a reference to an analysis that substantiates that the probability of an airplane crash during overflight does not exceed ten to the negative sixth/year, conservatively calculated. ***719-2***

"Number two: Please provide a rigorous, independent review of this document by an independent professional organization in order to increase public confidence in the conclusions. ***719-3***

"Three: Please provide an unclassified ***719-4***

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719-2 In response to similar comments, the text in the *Final CMRR-NF SEIS*, Appendix C, Section C.3.2, has been revised to more clearly reflect the consideration of an airplane crash into the CMRR-NF. The largest aircraft that is considered to have a conservative probability greater than 1 in 1 million per year of accidentally crashing into the CMRR-NF is a general aviation aircraft. References were added to support this conclusion, including the *DOE Standard: Accident Analysis for Aircraft Crash into Hazardous Facilities* (DOE 2006) and a site-specific technical evaluation of the potential for aircraft crashes (LANL 2011i).

719-3 NNSA and DOE engage their own technically qualified staff and subject matter experts to prepare the SEIS along with qualified contractors. The analyses include the evaluation of accidents and intentional destructive act impact analyses. NNSA does not intend to pursue an independent external review of the analysis in the *CMRR-NF SEIS*.

719-4 As indicated in Chapter 4, Section 4.2.10.3 of the *CMRR-NF SEIS*, substantive details of terrorist attack scenarios, security countermeasures, and potential impacts are not released to the public because disclosure of this information could be exploited by terrorists to plan attacks. NNSA considered a range of possible terrorist or intentional destructive acts and performed a detailed analysis of selected scenarios. Selected scenarios provide a reasonable range of events, including those with the largest expected impacts. NNSA and DOE engage their own technically qualified staff and subject matter experts to prepare the SEIS along with qualified contractors. The analyses include the evaluation of accidents and intentional destructive act impact analyses. NNSA does not intend to pursue an independent external review of the analysis in the *CMRR-NF SEIS*.

NNSA has an extensive program related to preventing terrorist threats. This includes ongoing evaluations of facilities and security forces to prevent successful attacks. In evaluating intentional destructive acts, the probability of a given scenario occurring is not a factor in the analysis. Therefore, the programs and funding of other entities, such as the Transportation Security Administration is not a relevant factor. The intentional destructive acts appendix presents consequences projected to occur in the event of a successful attack. The results of these analyses will be reviewed and considered by NNSA in making its decision on the CMRR-NF and are shared, as appropriate, with senior Administration officials and Congress.

overview of the classified appendix omitting details but including at least answers to the following questions: (A) does the appendix include consideration of attacks using aircraft?; (B) in determining risks from terrorist attacks, does the appendix assume continued funding for government agencies other than NNSA, such as the Transportation Security Administration?; (C) does the appendix estimate the consequences of a successful terrorist attack? If so, have these potential consequences been brought to the attention of the President and Congress for consideration in decisions on nuclear weapons policy?

719-4 cont'd

"And four: Please provide a rigorous, independent review of the classified appendix by an independent professional organization with appropriate clearances, and include in the SEIS an unclassified summary of that assessment. Please include the identity of the organization and the amount budgeted for the review as an assurance that the review is independent and thorough."

719-3 cont'd

And that's all I'd like to say.

(Conclusion of Mr. Doran's comments, 5:48 p.m.)

(5:57 p.m., non-public comment of Lawrence Quintana provided to Court Reporter Mary C.

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Hankins.)

MR. QUINTANA: Lawrence G. Quintana.

I'm very much so in favor of the CMRR Project going forward. I think that every delay is wasting a lot of resources, and it's actually creating large problems. The research and the development that this facility can do to help mankind is unbelievable, and if they'd just give it a chance, I think they can get it done. These study groups that keep studying just don't seem to get it together. You can't confuse the facts because your mind is made up.

The facts are that this facility is needed. The research and development needs to go forward. The benefits to the public is immense, and it's proven time after time. So I am very much for the CMRR going forward.

(Conclusion of Mr. Quintana's comments, 5:58 p.m. and conclusion of non-public comments.)

734-1

734-1 NNSA acknowledges the commentor's support for construction of the CMRR-NF.

Comments from the Santa Fe, New Mexico Public Hearing (May 26, 2011)

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTER

I, SALLY PETERS, New Mexico Certified Court Reporter No. 57, and Registered Professional Reporter, and I, MARY C. HANKINS, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing public hearing comments in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

____
SALLY PETERS
Bean & Associates, Inc.
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Date of CCR Expiration: 12/31/2011

____
MARY C. HANKINS
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New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2011

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Date taken: May 26, 2011
Proofread by: RP

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SECTION 4
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